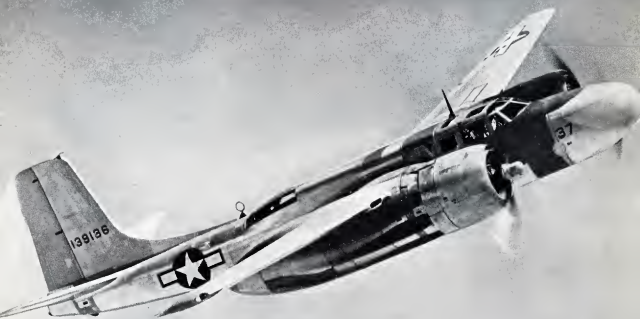


Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

NOVEMBER 6, 1944



Douglas A-26 Invader: Fastest and newest of its type is this blunt-nosed, square-bodied, low level attack bomber. Long on the secret list, this versatile plane already has seen action. All guns were removed to gain military release of this flight photo during demonstration flights at the Douglas Long Beach plant.

Air Accord as Instrument for Peace Stressed at Chicago

Lines begin to form early in support of U. S. or British programs; need for immediate opening of international routes on defeat of Germany and Japan emphasized in Roosevelt message....Page 7

New Plan Favors Negotiating Terminated Contracts

Recommended procedure follows that supported by aircraft manufacturing industry in contrast to following detailed formula; negotiation called "mainspring" of settlement.....Page 9

Clayton Authorizes Salvaging, Scrapping of Surplus

New order of outgoing administrator of SWPA expected to result in heavy declarations of surplus by Army and Navy in move to clear fields of obsolete and damaged combat planes.....Page 10

Study Proposal to Divert Planes from C-47 Assembly

Program suggested by Douglas and requiring Army sanction, providing companies approve, is expected to affect enough aircraft to meet CAB's estimate of needs for present operations...Page 50

Martin JRM-1 gets

NEW FIRE EXTINGUISHING SYSTEM



1st production installation in U. S. of methyl bromide extinguishing system

There's a new way to kill fire on the Glenn L. Martin JRM-1. For the first time production models are being equipped with built-in methyl bromide extinguishing systems. Walter Kidde & Company is proud to have scored this important first on the new production model of the great Martin Mars.

Methyl bromide, the new Kidde fire-killer, is a vaporizing liquid type of extinguishing agent which is extremely fast and effective against engine fires. Another important feature is the system's extreme lightness in weight. Economically less than other types of built-in systems. The new Kidde system is simple in design and operation.

For many months Kidde engineers have been busy in the development of a methyl bromide method, now perfected. This is not just an extinguishing system for the world's biggest transport. This new Kidde equipment means a new step forward in air safety!

Methyl bromide fire extinguishing gives great promise for today's military planes and commercial air transports. Walter Kidde & Company is prepared to discuss installation and performance data with interested manufacturers. Write us, on company letterhead, for full details on this new extinguishing method.



WALTER KIDDE & COMPANY, INC., 140 CEDAR STREET, NEW YORK 6, N. Y.

THE AVIATION NEWS

Washington Observer

MARTIN PERSONAL PLANE—Reports that Glenn L. Martin Co. has some engineers devoting spare time to design of several types of personal airplanes are confirmed by reliable, though not direct, sources. Appointment of Martin as a member of the Personal Aircraft Council of the Aeronautical Chamber of Commerce first aroused curiosity. Martin's press releases often told "Aviation News" but weak that it had as comment on the reports. Interested observers noted that Martin, though he has three or four designs of commercial airplanes for post-war use, has not as yet taken any orders, and apparently has available capacity for a personal plane program. Mr. Martin, they say, is the type of bold thinker who might take a chance on the large-scale development of private flying. He is also sensitive to aviation history and his part in it. His first airplane, completed in 1916, was a "personal" type, which he flew himself.

TUC LINKS C-53—Troop Carrier Command is impressed with the possibilities in Fairchild's C-53 cargo plane, whose twin-boom tail and rear-end hatchway gives unusual load handling convenience, and a close get-away for jumping paratroopers. The volume of free-fall military cargo is increasing as anti-crash packaging is improved. Responsible officers say the rear door will make it easier to load both free-fall and parachute freight overhead more accurately at the dropping zone. It will improve also the adaptability of mechanical discharge of cargo, such as container release devices (gathered after bomb racks and released) and possible power conveyors.

SINGLE AIR FORCE—Another drive for a single air force is brewing. Look for it to have the support of the isolationists. Isolationist line is that land-based air power will be sufficient defense. This goes away back into our history, when the young nation was hamstrung by the isolationists of that day, who argued that all America needed was coast defense troops and a Navy designed for coastal operations only. That concept involved strong until the days of Mahan and the first Roosevelt. Isolationists are whooping it up again, making strange bedfellows for the single air force protagonists.

SWPA REPORT—Surplus War Property Administrator W. L. Clayton has prepared his final report to War Mobilization Director Byrnes and will submit it shortly, probably when the new Surplus Property Board is appointed. The report is voluminous and details the efforts of

SWPA from the date of the executive order creating the administration.

*

SURPLUS BOARD REGIONAL—Odds now are that the new Surplus Property Board will be appointed on a regional basis rather than a functional basis. A confirmation of the new law is considered too complicated to consider it further by having purely business, labor and legal representatives on the board intent on projecting the views of their own groups.

UNFLYABLE PLANES—Plans sent to salvage centers are pretty sure to be rendered permanently unflyable to avoid having a vast supply of obsolete but usable planes hanging over the heads of the Army and Navy Air units. The lesson of the last war is too strong.

CHANGING SHAPES IN SKIES—One aircraft company is testing a phase of radical designs that is claimed to be more efficient than the Northrop flying wing. A new design, it probably will never be used in combat, but other versions are in the wind tunnel. Incidentally, war restrictions are being used by many companies to keep their post-war designs under wraps.

END OF THE TRAIL—Some engine company experts expect that the aircraft engine in its present form will be through when 1,000 hp is reached—which isn't too far off. After that, they look for the other new types to take over. But others point out that the same thing was being said after the last world war. It was no years after war before the horsepower bottleneck was pushed beyond the 500 hp level. Something like it probably will happen again if young and imaginative engineers are given their go-ahead signal.

REVISION UPWARD—Estimates of aircraft necessary to equip and maintain future U. S. air power may have to be revised upward as a result of expanding air-borne operations. The Army is frankly facing the possibility that all ground forces may leave off walking and rolling and start flying. There is no air-land-ground-force fight involved. The Army simply shifts its logistics into a third dimension. If such a shift takes place on a large scale, vastly more airplanes will be needed than are presently planned for tactical and strategic aviation. Now for the move may go in this war is unpredictable. It is certain to be developed in its full possibilities later on.

Meet

CAPT. VIRGIL TURNBULL

Two-million-mile veteran Braniff pilot Capt. Virgil Turnbull stands for the kind of flying that has won for Braniff the National Safety Award for four successive years. Born in McClain Co., Okla., Turnbull began flying in 1922. After several years' "hormorming," he became a transport pilot in 1929; joined Braniff in 1936.



Capt. Turnbull is "checked" by Link Trainer instructor rooms, which by Ohio State U. V. Carlson and Director of Instrument Flying Clinic Room.



Mrs. Betty Ames, Braniff link instructor, gives Capt. Turnbull the window and other conditions of the flight through the interphone.



Turnbull gets ready to "take off" in the link. The problem is to approach & clear an instrument, guided by radio signals.



Capt. Turnbull demonstrates his skill at instrument flying by making a perfect approach to a typical Braniff heavy landing in the link.

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Aviation News

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November 6, 1944

World Air Accord as Instrument For Peace Stressed at Chicago

Lines begin to form early in support of U. S. or British programs; need for immediate opening of international routes on defeat of Germany and Japan emphasized in Roosevelt message.

By MERLIN NICKEL

Prime differences of opinion on ways and means for establishment of world air routes immediately after defeat of Germany and Japan began to develop early at the International Civil Aviation Conference in Chicago after the opening, which was marked by unanimous expressions of delight that the air must be transformed from an instrument of aggression into a predominant force for world peace.

A message from President Roosevelt, read to the conference by Adolf Berle, Jr., Assistant Secretary of State and head of the United States delegation, urged the conference not to dally with the thought of creating great blocks of closed air, thereby straining in the sky the conditions of possible future wars.

Immediate Start Favored—The point of the United States is that international operations should start immediately after cessation of hostilities, a view espoused by Mr. Roosevelt's statement that he did not believe the world can afford to wait several years for its air communications. The British, on the other hand, favor international authority over routes and the Americans and New Zealanders go even further in their proposal for an international air company in which all nations would participate and which would control all international flying.

It is not overlooked here that the United States is the only nation prepared for immediate operations. Some read into Mr. Roosevelt's statement an intimation that the United States will supply necessary planes for all when the time comes for operation. It is conceded that it would be difficult for other countries to fly

international routes for some time to come without American equipment.

Other Nations' Stand—Other United Nations and neutral countries represented at the conference assumed an initial role as on-lookers, some by choice, others not. Some were desirous that they watched and can't let their either American or British. Others adopted a wait-and-see attitude, stating privately that they had not been previously consulted on the international aspects of post-war commercial flying and wanted to wait until all the evidence was in.

Berle stressed the need for expediting the decision to peaceful flight so that "the healing processes of peace can begin their work as rapidly as the interferences resulting from aggressive war can be cleared away."

Similar hopes were expressed by delegates who responded to the American speeches of welcome. American delegates, however, led the conference into no false illusions as its conclusions as to how the air can be made an instrument of peace.

Peace Objects Stressed—Mr. Roosevelt, in an message, admonished the conference not to endanger the peace settlements, of which the results reached in Chicago will be an important one, "by policy considerations or... by groundless fears... let us work together so that the air may be used by humanity to arrive harmoniously."

As the conference opened, three countries were present, in addition to Russia, were absent—El Salvador, Guatemala and South American Russia, however, was assured of first hand reports by the presence of two top-flight correspondents from



Adolf Berle, Jr.

Ten, official Soviet news agency. The initial flurry resulting from Russia's last minute withdrawal had subsided by the time the conference got under way, with many of the delegates reaching the conclusion that Russia simply was not interested in international aviation for the moment, being content to develop domestic aviation within the Soviet Union.

Civil Aeronautics Board, Civil Aeronautics Administration and State Department provided a secretarial numbering about 175 to direct the conference, staff the committees and serve the more than 700 persons and heavy press attendance connected with the conference.

H. P. Nelson to Head WPB Air Division

Substantial progress reported in formation of new aircraft industry unit.

Plans for creation of the aircraft industry division within the War Production Board are progressing and chief of the set-up will be Henry P. Nelson, until recently materials coordinator with the National Aircraft War Production Council.

Nelson's selection would be acceptable to both the East and West Coast Council organizations, since he was connected with the National Council for more than a year. Now

engaged on a special project for a project, it is expected that he can take over for at least a month.

Don't Harvester Official—He first entered the aircraft production picture when he was given a 90-day leave of absence from the International Harvester Co., where he was manager of production, to assist the War Production Board. From there he went to Los Angeles for the AAF and then joined the Aircraft War Production Council, West Coast, before being assigned to the Washington headquarters of the Council. He left the Council about a month ago.

Meanwhile, the reactivated aircraft production board held its first meeting with WPR Chairman J. A. Krug, as chairman, replacing Charles E. Wilson who left the government to return to General Electric. Other members are Maj. Gen. O. P. Echols, Rear Admiral



Maj. Gen. W. R. Weaver

Gen. Weaver Dead

Maj. Gen. Walter Reed Weaver, 58, former acting chief of the Army Air Corps and head of the Technical Training Command, is dead after a long illness.

He became consultant to Aviation Corp. after his retirement from the Army and was associated with that company when he became ill early in August. Shortly after Pearl Harbor, he was assigned to the Training Command and retained a staff the command was reactivated July, 1943.

Associate of Mitchell—A close associate of the late Gen. William Mitchell in the expansion of the air arm of the Army, General Weaver held commands in training, staff and technical jobs during his 36 years in the Army.

Lawrence Hutchinson, T. P. Wright, Civil Aeronautics Administrator, who sits on the board as former director of the Aircraft Resources Control Office, and Myron Tracy, present acting director of ARO. Tracy will be a member and recorder of APO.

It was decided that the APO would meet twice monthly instead of weekly as before.

Heavy Turnout Seen At Okla. Air Clinic

Attendance at aviation conference Nov. 15-16 expected to exceed next year's 600 by sizable margin.

Attendance at the Second National Aviation Clinic at Oklahoma City, Nov. 15 to 16 inclusive, is expected to exceed considerably the 600 mark recorded at the first annual clinic a year ago, judging from heavy advance registrations according to Stanley O. Deager, executive committee chairman.

General sessions will consider themes of Aviation and Government, will be held in the Personnel Hall at the American of Tomorrow, Airports and Air Traffic Control, Travel and Trade by Air, and Training and Education in the Sciences and Arts of Air. Top-flight leaders in many phases of aviation will be speakers and discussion leaders on these subjects.

Debate on Regulation—Nineteen-eighty voting delegates, seven each from 24 classifications within the industry, including airplane manufacturers, airlines, airline applicants, airport executives, allied aviation interests (insurance, fuel, etc.), accessories, aviation education, aviation press, schools and fixed base operators, engine manufacturers, municipal officials, private firms and aircraft owners, aviation associations, clubs and civic interests not otherwise classified, will vote on the official final action of the clinic.

Opening sessions will include a debate on state vs. federal aviation regulation, with Maj. Sheldon Rogers, director of the Michigan Board of aeronautics, and Dr. John Frederick, professor of transportation, University of Texas, as the speakers. The address on aviation taxation by Oswald Ryan, CAB member Thursday speakers will include John E. P. Morgan, manager of the Personnel Aircraft Council, discussing personnel plans, trends and potentials, and Administrator T. P. Wright of CAA,

who will discuss Airports and Traffic Control.

Payne to Speak—J. Welch Payne, CAB chairman, will speak on Post-war Air Passenger Potentials and Henry Bailey, president of All American Aviation, Inc., will discuss feeder operations, at Friday sessions. Saturday morning session will be devoted to aviation education with Casey Jones, New York, discussing aviation trade schools and resolutions and findings of the clinic will conclude the four-day meeting.

Other talks will include a discussion on surplus property disposal by Louis Col. William Harding of the Surplus War Property Administration, and a talk on Air Transport Combined operations by Maj. Gen. Harold George, ATC centering general.

Oklahoma's Gov. Robert Kerr and William Bryant, president of National Aeronautic Association, will be among pressing officers at the clinic.

Held in Capital—In addition to voting delegates, a much larger attendance of observers and associate delegates is anticipated. Sessions will be held in the house of representatives chamber of the Oklahoma state capitol. The program includes one public session and a number of entertainment features. Preliminary to the Clinic, the National Association of State Aviation Officials will hold its annual meeting at Oklahoma City Nov. 13 and 14.

Clinic committee chairman is—

Program, G. M. Mosier, vice-president, American Airlines, New York, Public Relations, Harry A. Bruns, New York, Credentials, Col. Robert Turner, Indianapolis; Local Arrangements, Glenn C. Riley, president, Oklahoma City Chamber of Commerce, and Finance, Fred Jones, Oklahoma City.

CAP Wings to Meet

Representatives of 33 or more state CAP wings are expected to attend the fourth annual war conference of the Oklahoma Civil Air Patrol at Oklahoma City, Nov. 15, in conjunction with the National Aviation Clinic. Col. Earle Johnson, national CAP commander, will be principal speaker, and the program will deal with CAP recruiting of young adults and WACs. For the occasion, Capt. W. C. McLean Patterson, Oklahoma wing commander, is in charge of the conference.

New Army-Navy Directive Favors Negotiating Terminated Contracts

Recommended procedure follows that supported by aircraft manufacturing industry in contrast to detailed formula.

By SCOTT HERSHEY

Conclusion of the aircraft manufacturing industry generally that terminated contracts should be settled largely by negotiation rather than by detailed formula is supported in a new Joint Army-Navy Termination Regulation.

Negotiation is favored as the way of settling in a joint statement by the Secretary of the Navy and the Under Secretary of War, contrasting with the new regulation which, in a large measure, provides rigid, mechanical formulas and mechanical aids designed for speedy and equitable settlement.

Contract Price Settlements—The Regulation covers all aspects of fixed price contract settlements and agreement between the two branches on a single set of rules and is expected to simplify and expedite the whole procedure of contract settlement and property disposition. The Joint Termination Regulation supersedes the War Department's Procurement Regulations and explains the Navy directives on contract termination.

The new Regulation seeks to provide uniform and workable rules for carrying out the three purposes of the Contract Settlement Act of 1944, to settle and maintain claims fairly and quickly, to clear termination inventory from war plants promptly, and to provide adequate compensation.

A joint statement by the Secretary of the Navy and the Under Secretary of War noted that the regulation, like the act, recognizes that prompt settlement of termination claims "can be accomplished only by fair and businesslike negotiation. Negotiation is the recognized principle of settlement. This must be kept in mind constantly in applying the detailed provisions of the regulation."

Follows Negotiation Policy—This statement is in line with the thought and urgings of many aircraft industry executives who have recommended negotiation rather than formula settlements, but who have found, in some cases, that termination officers have stuck rigidly to this viewpoint of the Sec-

retary and the Under Secretary was favorable, although it has been pointed out before in industry circles that, while top-side in the services was sympathetic to negotiation, officers down the line were inclined to stay within detailed, non-negotiable formula.

The new regulation includes new uniform settlement proposal forms applicable for all procurement agencies together with covering and accompanying instructions that constitute a new joint accounting manual. These forms have been simplified, now making it possible to file practically any type of fixed price settlement proposal on one standard form.

Consolidated Setups—The consolidated termination program set up appears to provide for facilitating contract settlements through a plan for assignment of selected contractors to particular services of the Army or officers of the Navy, rather than duplicating effort by having two or more agencies offer rival proposals. The feature of that consolidated termination program is the reliance by one service on the accounting reports and property disposal decisions of another service.

Output by Types

Detailed figures on aircraft output by type from July 1, 1945, to Sept. 30, 1945, have just been released by the War Production Board. Total output production during the period was 83,828.

The figures, which group no aircraft weight output, emphasize that industry's increasing bomber production topped all other categories, closely followed by fighters, with trainer production, not counting all to a small percentage of the total, third.

The figure follow:	
Bombers	74,682
Fighters	70,337
Trainers	15,562
Naval Reconnaissance	3,548
Observation	14,943
Communications	10,755
Special purposes	2,150
Total	233,987



Ken Ellington

Ellington Heads AMC in New York

The New York office of the Aircraft Manufacturers Council of the Aeronautical Chamber of Commerce has been reactivated with the appointment of Ken Ellington as manager.

Ellington, widely-known in the aviation industry, has been Secretary of the Aircraft War Production Council, East Coast and for the past three months has served as consultant to Hilt and Knowlton, public relations counsel for the Aeronautical Chamber. As General secretary, Ellington coordinated the work of the War Production Council's committees on manpower problems, including industrial relations, labor relations, plant defense, public relations and employee morale activities.

Directed Radio Relays—Before joining the Aircraft War Production Council, Ellington was director of radio relays for the Aeronautical Chamber and was responsible for aircraft industry participation in and recognition on many radio programs.

Before his Chamber affiliation, Ellington spent 16 years as new and special events director and production supervisor for midwestern radio station and Columbia Broadcasting System. He has been associated with many aviation activities throughout the country both before and after his direct entry into the industry.

As New York manager for the Aircraft Manufacturers Council of the Chamber, he will coordinate regional activities of eastern aircraft manufacturing companies and serve as liaison with Washington headquarters of the Chamber.

Lifting of Bans Reveals A-26 As Fastest All-Purpose Bomber

Long-secret Douglas *Invader* expected to play dominant part in strafing operations prior to invasion of Japan.

By SCHOLER BANGS

Already in combat, the long-secret Douglas A-26 *Invader* now can be described as:

► Army Air Force' fastest and lightest all-purpose low-level strafing bomber.

► A plane that reasonably can be expected to play a dominant part in the onslaught stage of the invasion of Japan.

► An aircraft offering engineering concepts which may influence subsequent warplane designs and even the post-war planes of commerce.

► Still restricted are details of the *Invader's* performance, armament, weight and dimensions.

No longer restricted:

► The *Invader's* square fuselage, offering production as well as aerodynamic advantages.

► The plane's Douglas-patent double-slotted flaps.

► Employment of speed-boosting jet exhausts developed by Douglas and proved in the company's A-20 *Warrior*.

► Exceptionally clean contours showing Douglas' use of the latest

available research in the field of compressibility and shock wave effects.

In demonstration flight at Long Beach (the plane is under production at Douglas Long Beach and Tulsa plants) the A-26 gave good evidence of its aerodynamic cleanliness.

To lay observers there is evidence that the airplane's use of a full-slotted fuselage offers a means of buffering and reducing the vacuum effect, and compressibility reactions, evident at high speeds in two-engine aircraft employing humpbacked rounded fuselages and engine nacelles.

► **Flap Assembly**—Probably the most unique feature of the *Invader* is its flap assembly, the flaps in "down" position throwing into position a small airfoil, heavily cambered to follow the contour of the flap leading edge.

With the slot central of flap airfoil, Douglas apparently has accomplished, in minimum takeoff and landing speeds, what Northrop does on the P-61 Black Widow

by employment of wingtip spoilers to give stream effort while the airplane's conventional ailerons are integrated with flaps to provide a full wing-length flap.

While the A-26 is exciting in flight, and undoubtedly will prove to be a potent weapon as a solid strider, invader bomber, and even as a torpedo carrier, it will be viewed by many as among the best of this country's production of conventional design warplanes.

► **Began in January, 1941**—Engineering of the airplane was under way as far back as January, 1941, and in May of that year a contract for three "X" units was issued, followed in October of that year by a 500-plane contract.

Excellent production characteristics are indicated in the present airplane, and attested by the comparatively short length of final assembly lines. Component parts are completed with a maximum degree of secondary mutilation before they reach the final line.

Serviceability characteristics appear to be exceedingly good for an airplane so compactly designed. Close attention has been given to the quick change of components, given evidence in the mutilation of the plane's twin 1800 hp. Pratt & Whitney engines. Power plant changes can be made in about an hour and assemblies are interchangeable.

► **Sheet Metal Engine Mount**—An outstanding structural feature is Douglas' employment of a sheet metal engine mount rather than a welded tubular mount.

What Douglas originally sought to do, and was denied by military demands for early A-26 production, now is being carried out in replacement of original cockpit canopies with a new design which permits the pilot to see over the tops of the plane's long engine nacelles. In first production models, now being modified, vision over nacelles was restricted, preventing close formation flying.

RCAF India Mission

Royal Canadian Air Force mission to India has completed three months work under Air Vice-Marshal Lee F. Storer. The mission was sent to India to study tropical warfare and special equipment in use in the China-Burma-India theater with a view to bringing RCAF forces to operate in that theater. Some RCAF squadrons have been stationed in Ceylon since shortly before Pearl Harbor.



AAF's Latest and Fastest, the Douglas A-26 *Invader*



PIPER CUB CARRIES BAZOOKAS:

A Piper Cub artillery liaison plane now carries three bazookas attached to each wing strut. The projectiles can wreck tanks, trucks and armored cars, but are not so destructive as those carried on heavier ships.

Army Demonstrates Equipment, Technique of Airborne Operations

Virtually all weapons used by ground forces, including bulldozers and heavy artillery, some modified to reduce weight and facilitate handling, expected to move by air in "blitz of tomorrow"; system may even be used against Germans and Japs if war lasts long enough.

By IRLINE STUBBLEFIELD

The next move, already begun, is to treat all ground forces as potentially air transportable. At that point the Army demonstrated equipment and technique of air-borne operations, at Washington National Airport last week.

Surface warfare at an already proved extensively into the air. Very soon, nearly all equipment and weapons used by the ground forces, some of it modified for lighter weight and easier handling, plus the troops that handle it, will be down.

C-47s Only Beginning.—The Fairchild C-47 cargo service is only the beginning. This AVIATION NEWS correspondent, visiting Root Field, Indiana, Troop Carrier Command headquarters just prior to its move in connection with the exhibition, was told by top officials that bigger planes will be developed to lift down heavy bulldozers, medium tanks, and big field guns. They will require equipment and manpower of whole armies, at points of attack hundreds of miles from enemy territory.

They believe the Germans, if they hold out in a bitter-end war, will be hit from the inside by airborne forces of Army proportions. Like action is predicted in China, Netherlands Indies, and Japan. Here many C-47s get into this line, and whether any similar larger equipment gets in, will depend on the duration.

Blitz Tactics of Tomorrow.—Surprise, war's most potent blow, is a major advantage of flying armies. Without giving a hint of intention, they can strike distant objectives between dusk and dawn. Reconnaissance postscripters, gliders with equipment to build and destroy, snipers, and heavy fire force with the power to do battle, that's the one, two, three blows of tomorrow.

And don't forget, said Brig Gen. William D. Coad, Troop Carrier commander, that in 1918,

the enemy can do the same thing. Not in this war, though. We took up glider and parachute operations, where the Germans left a lot of heavy weapons at their own peril completely.

Four years of research and experimentation have gone into the stage of all-airborne perfection demonstrated at the National Airport. The work has been done by AAF Troop Carrier Command, Army Ground Forces, and Army Service Forces, working in close cooperation with space scientists from Ordnance and other branches.

Planes D-6—Major aircraft now used by TCC are the Douglas C-47, carrying 2,000 to 3,000 pounds of payload; Curtiss-Wright C-46, which has about double the capacity of the C-47; the Douglas C-54, 3,000 to 12,000 pounds, quarter-ton trucks and the 100 man power-lifters being the biggest single piece of air accommodation; the C-55, designed to lift 15,000 pounds in weight class, and which can fly 90 percent of the equipment of the regular triangular infantry division—trucks, guns, tanks, bulldozers, tractors. Production of this airplane just starting.

Gliders in the demonstration—the CG-4A, standard workhorse which has participated in most Army air-borne operations; the CG-10A, enlarged version of the 4A, produced in far lesser numbers; the CG-13A, another improved version of the 4A, with better performance and improved crash protection; the CG-10A, a practicality of carrying large equipment, has the largest space and biggest payload of any glider; CG-16, an experimental model built to determine the critical design use of tactical usefulness. Only the CG-4 and the CG-13 are in volume production.

Pickup Demonstration.—Among the action demonstrations was a "pickup" of the CG-4, single man on the ground, by a C-47 tow

plane, using the hook device for which credit is given to All American Aviation. Looking on anxiously from the sidelines was Mrs. Richard C. DuPont, widow of the former president of the annual picnic system, and Evelyn, head of the Army's glider activities during the important development phase. Equipment and methods used in evaluating the wounded were demonstrated, and the rapid emergency of men, trucks, tanks, and guns from gliders and planes was shown.

Many problems must be worked out to improve air-borne tactics. First, the limiting factor, as of today, is the size of airplanes to carry the big equipment. That one will be handled as fast as possible by service engineers and by the industry.

Ryan Aeronautical Names Woodson V.P.

Former Bell executive to be general manager of company.

Gen. L. Woodson, widely known production executive, has been named vice-president and general manager of Ryan Aeronautical Co. In making the announcement, T. Claude Ryan, president, noted that his company has orders substantially in excess of \$60,000,000 on hand from the Navy for new Ryan-designed fighting planes (A-26) and the Navy's new and the company was going into production of the most important airplane in Ryan's war program—a program which will require the plant's maximum capacity on schedules extending well into 1948.

Bell Aircraft Official.—Woodson for the past five years was vice-president of Bell Aircraft Corp., where he has been in charge of production. He was general manager of Bell's plant at Murfreesboro, Ga., building Boeing B-29's.

Woodson, 46, has a background of 21 years in aviation. He became assistant chief engineer for Curtiss-Wright after serving as a pilot with the AAF in 1917. Later he was with Service Aviation Co. and during four years with the U. S. Air Mail Service, where he was in the first boundary and flood lighting unit in night flying. In 1928 he founded Woodson Engineering Co. for design and manufacture of planes. He went with the old Northrup Division of Douglas in 1934 as project engineer.

PRIVATE FLYING

Competition of Oil Firms May Aid In Lightplane Facilities Expansion

Auto-airplane filling stations, providing service for both personal aircraft and cars, reported under study by at least five major companies.

By ALEXANDER MCGURRY

Sharp competition between major oil companies for the expanding fuel and oil market offered by the personal aircraft industry following the war, is expected to be an important factor in expanding facilities for the personal plane. At present, many of the big operators are silent, waiting to see what their competitors are going to do, before plunging ahead with open announcement of their own programs. However, it is reported that at least five major companies have definitely charted their aviation development programs on a scale far beyond any pre-war program.

Filling Stations.—Trend of the thinking leans toward establishment of combination auto-airplane filling stations which can provide service for both personal aircraft and automobiles. Some companies have already shown drawings for such stations, which would be located on flight strips between highway and strip, or alongside airports, in such a way that they can serve planes on the flight strip, and surface vehicles on the street side.

No indication has been given that any of the companies are planning to establish their own complete flight strips or airports, although one of the companies might establish a model airport and operate it as a laboratory test. The seven firms in total could be offering service facilities or improving existing facilities at new airports, flight strips and air harbors, and at larger fields too, as the opportunity presents itself.

Presumably cities with several landing facilities, may also several companies represented with combination stations, although it is not likely that any single landing will have competitive services.

Service Equipment.—Amount of service equipment to be provided

will vary from elementary hand-operated equipment, at little-traveled strips, up to elaborate power operated equipment at the busier stations. Small motor-powered trucks, which can carry two drums of gasoline, a hand-pump and an oil container are being considered by one company as a very serviceable beginning for fields where only a small volume of business is expected in the early days. The next step may be a small trailer-towed oil truck of the type used by the AAF to fuel its fighters at advanced bases. Such portable equipment easily can be required by larger company service facilities as the business grows.

One of the early gunnery-pl

Mass Production

Mass production methods developed by the Navy for aircraft accessory builders are expected to be put into use in making low-cost instruments and controls for personal flying, in the opinion of Ernest Brecht, president of Bendix Aviation Corp., one of the largest instrument and accessories manufacturers. Where production of 50 instruments a month was the goal in the pre-war, in one Bendix plant production is now running at a rate of 75,000 instruments a month.

L. A. Rhoad, executive engineer, believes instruments will be built into the power personal plane as an integral part, rather than manufactured as an added accessory. "Packaged" instruments will be made in one unit and packaged landing gear including brakes, wheels, tires and landing gear, will be supplied as complete assemblies to the manufacturer, Rhoad believes, to reduce costs further.

combination service stations is expected to be started within a few months at a 15-acre 70-acre field just east of Greenville, Ind., alongside U. S. Highway 40, through intercommunal highway. The field will have a frontage of 1,350 feet along the highway, and will have two runways, one of 2,850 feet, north-south, and a 2,000-foot runway east-west. Oil companies are reported already bidding for the lease to operate a combination station there.

Combination Station.—As one oil company representative expressed it, "A combination station will make it possible to provide service for both cars and airplanes, which would aid, in the beginning, provide enough business in themselves to pay for the services and the facilities. The amount to be realized from many small airports, even now, however, is apparently enough to make a very tiny addition to the revenue of any automobile service station, and enough to warrant establishment of the combination station."

New Certification Procedure Developed

Using a new three-phase Paper model as a pattern for a new certification procedure, CAA aircraft engineers have completed the system, materially reducing the amount of technical data and time necessary for a type certificate. It is believed that the final procedure will be put into effect early by CAA as a result of the successful experiment.

Major change was the streamlining of a CAA engineer at the Paper plant at Lockheed, Pa., during a good part of the testing, which speeded the settlement of technical questions, and the keeping of reports at the Paper plant until the new system completely worked, then sending them into a district CAA office or to Washington.

All Data Approved.—Two months after the first technical data were sent in, all had been approved except for certain parts of the final design analysis, which were approved 10 days later. A total of 420 pages of basic information, static test reports and stress calculations, and 34 drawings were submitted. By streamlining the amount of the procedure to the CAA required approximately five months to get approval, in 1938, when examination of all material was conducted in the Washington office, and 607

pages of analysis and 10 drawings were submitted.

The custom-built plane was powered with 120 hp. engine, equipped with slots and flaps, and with gross weight approximately 10 percent greater than that of the preceding model.

Air-Country Club Field Completed

Limited service already available to flyers on Miami project on Biscayne Bay.

Landing field of the elaborate Miami Aviation Country Club project on Biscayne Bay, has been completed and officially designated by the CAA, and limited service to flyers is available, while building developments on the proposed center await removal of wartime restrictions.

The field has two hard-surfaced runways, 75 x 2,860 feet each, with grass landing strips of 300 x 2,560 feet on each side of each runway. Plans call for a salute house on Biscayne Bay at the east end of the east-west runway.

Hanger Clubhouse—Principal building projected for the center, a large hanger-clubhouse, will provide a lounge, private club-room operations facilities and flight information, display rooms for aircraft manufacturers, and hanger facilities for visiting planes. A 25-unit apartment court, to accommodate non-resident members during visits to Miami is planned to adjoin the airport.

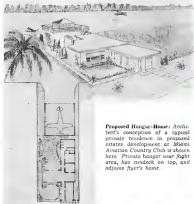
A permanent residential area has been reserved for club members who wish to build their homes near the center. Residents of the estates area will be able to land their planes on the flight area and taxi to their private hangars at their own homes. Some of the lots border the landing area, while others face the Bay and a coral rock canal, providing private boat or seaplane anchorage.

Other Facilities—Additional 7-hangers will be built to accommodate planes of members not living in the Center area. Other facilities projected include a restaurant designed so that diners will have full view of airport activities, and facilities for deep-sea fishing, and various other sports and recreational activities. The club will also undertake to make passport arrangements and handle other details for flights down into the

Caribbean area, and will provide transportation from the center to hotel or residence in the Miami area.

Projected as an exclusive aviation club for persons owning and flying their own planes, the Miami center is one of the first examples

of the post-war aviation clubs on a yacht club scale which may be expected to develop in various sections of the country, particularly in resort areas. Officers of the club are John F. Keefe, president, and Richard E. Flynn, vice-president.



Proposed Hanger-House Architect's conception of a tapered private residence in proposed estates development at Miami Aviation Country Club is shown here. Private hanger near flight area, has runway on top, and adjoins flyer's home.



Airview of Proposed Miami Developments While runways have been completed and the Miami Aviation Country club is now reported ready for limited service to flyers, building developments shows in this architect's drawing await removal of wartime restrictions.

We dip our wings to the Airlines!

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TWA *transport the world*

PAA

PCA *The Distance is Nothing*

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MID-CONTINENT AIRLINES

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NASAIR AIR TRANSPORT SERVICE

Curtiss Commando

The word "impossible" is not in the airlines' vocabulary—not when they have carried, with only one-half of their fleet, more than half again the number of passengers and four times the cargo carried in 1940—not when they have hauled everything from troops to kettles, from rockets to V-mail, from helicopters to gasoline trucks. They deliver the goods! For these and a host of unending war accomplishments we dip our wings to the airlines of our country! Curtiss-Wright Corporation, Airplane Division, Buffalo, New York.

IF YOU HAD AN X-RAY EYE

WHY RESISTOFLEX HOSE* IS DIFFERENT

YOU'D SEE

WHY RESISTOFLEX HOSE* IS



NOW you can see right past them (in fact, And if you were able to see through a Resistoflex hose that had been used for years, you would see the copper tube, unchanged upon its original installation.

For comparison an elastomer that varies in composition according to the job it is to do. Copper is completely immune to the corrosive and erosive attacks of gasoline, fuel oils, engine exhausts, hydraulic fluids and lubricants. That is why copper cannot shrink, its diameter neither can it swell, rot, or elongate.

You would also see a tough reinforcement of selected fabric or fine wire spun around the copper tube. Thus, pressure resistance is built up without loss of flexibility.

And for even greater strength, a rugged outer cover of special formulation protects the hose assembly from external abrasion and rough handling as well as the corrosive effects of oil and gasoline.

Yes, if you had an X-ray eye you would see copper, an outer armor and outer cover, and you would readily understand why Resistoflex hose has never failed due to vibration or flex under normal operating requirements.

A staff of engineers, helped by the Resistoflex Corporation, is prepared and willing to help you with your flexible hose problems. Laboratory technicians will be glad to work out special purpose formulation of copper for you, should your problem require them. A short letter will bring you the benefits of their experience without obligation.

"THE TUBE IS THE HEART OF THE HOSE—INSIST UPON IT BEING COPPER"

RESISTOFLEX

RESISTOFLEX CORPORATION, BELLEVILLE 9, N. J.



FOLDING WINGS FEATURE PLANCK DESIGN:

Charles Planck, CAA earnest information section chief, having seen lots of ideas for personal planes, decided to dress up his own, a versatile job-up-jump, four-place ship, shown above. The design, among those submitted in the recent Popular Science competition, calls for cruising speed of 100 mph, operating with full load from runway less than 1200 feet long, steep glide under full control, sparsely, four-wheel landing gear, electric starter, 160 hp. engine, wings that fold and fold air can be removed, for roadability. Fuel for three hours of cruising, landing speed under 40 mph, and stalling speed of 50 mph, surface speed of 25 to 35 mph, ceiling of 10,000 to 12,000 feet, only enough instruments for compact flying, comfortable wide automobile type seats, fixed pitch propeller unless quickly producing modern controllable pitch prop available.



QUALITY APPROXIMATES QUALITY
American Export Airlines' Boeing Flying
Aircraft make the world's largest regularly
scheduled trans Atlantic commercial air-
line flights. One plane, maintenance is its
importance here.

Resistoflex hose is a vital part of their
Tut does equivalent about above. The
copper tube is completely immune to the
erosive corrosion but depends through it.
It is a guarantee of long life, speed and
dependability.

And to say other hose application
requiring immunity to oil, gasoline, and
engine exhausts, Resistoflex hose can be
dependable upon.

Coast Guard Unit To Recruit Airmen

Coast Guard is planning selective recruiting of pilots for its post-war air Auxiliary.

The air Auxiliary units will operate in cooperation with the surface vessels in air-sea rescue activities and other emergency functions and in maintaining safety. Creation of the air Auxiliary has been authorized by Congress, but little or no activity is contemplated until the Auxiliary returns to a peacetime basis.

Organized in 1938—the Coast Guard Auxiliary was founded in 1939 as the Coast Guard Reserve. In 1943 the need for recruits in the Coast Guard organization dictated a change in the name to Auxiliary for those who served with but could not become part of the Coast Guard or the reserve. Pre-war requirements for membership in the Auxiliary are the ownership of a boat and completion of required instruction courses in plotting, small boat handling and similar subjects. A limited number of others were admitted as boat crew.

Commander James H. Kimberley, head of Coast Guard Auxiliary activities, expects first enrollments in the air Auxiliary to be limited to flyers with amphibious or float

planes and later expanded to include land plane owners.

Radio Transceiver—Radio operators also will be enrolled to effect radio teamwork between coastal points, planes and boats. Membership in the Auxiliary will be selective, barring any mass absorption of the Civil Air Patrol. Qualifications will be worked out by an officer of Coast Guard aviation, and units will be organized wherever Auxiliary work is new or needed. This includes the three sea coasts, the Great Lakes, and navigable rivers such as the Mississippi, Missouri, Tennessee and Hudson.

Port in City Limits

An airport bounded on the north by the southern city limits, in the narrow of Lebanon, Ind., (population 7,000) to the surprise problem, the 30-acre field with two 1,500-foot turf runways, has been opened under temporary CAA designation as land owned by the city, under operation of Lebanon Airport Co., Robert Hudson, president.

The central Indiana town's airport has a five-plane row-type hanger of steel construction, fully occupied and a enderblock building housing operations, pilot lounge and observation room. East end of the building is entirely of glass, built in V-shape for specta-

tor purposes. Additional land is available in the east, if and when expansion is necessary.

Training Contracts

Settlement of 85 pilot-training war contracts of the War Training Service has been completed by the CAA contract termination board in the last few months, during which members flew 22,000 miles, inspecting training centers and dealing with 13 contractors. Claims totaling \$2,400,000 were settled for approximately \$1,600,000. One contractor only failed to agree and he has appealed to Administrator T. P. Wright for reconsideration.

Board included L. W. Lawrence, CAA contract and services officer, W. G. Stewart, assistant WTS director, and John P. Miffin, WTS chief of operations. Contractors affected were those who had been training instructors when the Army ordered instructor training stopped as of Jan. 15, 1944. Many of the operators were left with no business, and some of the centers became virtual "ghost towns."



GOV. SNEEL JOINS CAP:

New addition to the Oregon Wing of Civil Air Patrol is Oregon's governor, Earl W. Snell, shown above signing his membership application, right, while Col. Bertie Johnson, national CAP commander, left, witnesses his signature.

PASSENGER-CARGO LOADS ARE GETTING BIGGER—



Twice as big as any flying boat now used by the Naval Air Transport Service, the giant 70-ton MARS transport carries larger sea-based passenger-cargo planes like Victory.



Largest and fastest land-based commercial transport plane, the 90-passenger CONSTELLATION gives a real indication of what America may expect in tomorrow's luxury liners.

AND SO IS

FLYING HORSE POWER



Powerful new fuels undreamed of two years ago play an important part in today's sensational aircraft performance.

Outstanding among these is Socony-Vacuum's great new Super Fuel Power, "Flying Horsepower."

It's the result of 11 years' research in catalytic cracking and multiple developments, climaxed by the famous TCC Process and the Magic Bead Catalyst.

"Flying Horsepower" is now flowing to U.S. warplanes from 19 great Socony-Vacuum catalytic cracking units, a \$90,000,000 investment in new refining facilities and equipment.



For aircraft designers, builders and operators this greatest catalytic cracking program in the world promises even greater "Flying Horsepower" for tomorrow's super planes and cargo craft.

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26 Broadway, New York 6, N. Y., and Affiliates: Magnolia Petroleum Co., General Petroleum Corp. of Calif.



NEW SUPER AVIATION OIL HELPS
KEEP ENGINES CLEAN!

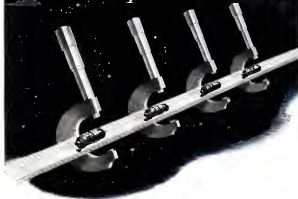
Drawing upon 75 years' lubrication experience, Socony-Vacuum has developed a new super Mobiloil Aero for aircraft use. In service as a running-in fluid for new Mobilgas Aero. In operational flights covering thousands of air-hours, this new oil has proved its exceptional wear-resisting qualities. Outstanding feature is resistance to ring-slugging deposits.



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PRECISION ENGINEERING

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IN 3 weeks Jack & Heintz designed a unique retraction motor for the Air Forces... made important improvements in motor performance and life that had never before been thought possible... and in 2 more weeks were producing it in production-line quantity at a lower price to the government. When the war is won this Jack & Heintz ability will be available to industry—to help you with better parts or products, engineered and produced with new precision at production-line speed and low cost, to meet your postwar competition. We would like to show you this unique combination at work now. Jack & Heintz, Inc., Cleveland, Ohio, manufacturers of aircraft engine starters, generators, gyro pilots, gyro flight instruments, magnetos, motors.

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Minn. Groups Push Aviation Amendment

Backers are properly developed aviation facilities to strengthening state's bid for becoming great air center.

Launching a well-organized, all-out drive for passage of an aviation amendment to the Minnesota state constitution, Minnesotans have been told by Vernon S. Welch, campaign manager of the newly-organized Aviation Amendment Volunteer Committee, that passage of the amendment will insure the state a high place in post-war aviation and air commerce. **Urges Speed Program**—According to Welch, the real future of Minnesota lies in the development of a sound, progressive aviation program and he pointed out that the 1943 Legislature enacted a far-reaching and far-sighted program, totally dependent on passage of the amendment for its fulfillment. He compared the amendment to its design for air travel with what

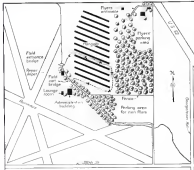
the Babcock highway amendment did 33 years ago for the state highway system by taxing autos.

The aviation amendment is an enabling act authorizing the state Legislature to levy a tax on aviation gasoline and to license airplanes. The money raised by such means would be made available for airport and airway development in the state.

Detroit Port Study

Analysis of aviation facilities within a 46-mile radius of downtown Detroit, as a basis for recommending such additional installations as may be needed for the next 15 years, is planned by a new Detroit Metropolitan Aviation Planning Authority.

The Authority is made up of the Michigan Board of Aeronautics, which has subscribed \$50,000 for the work, and officials of the city of Detroit and Wayne, Oakland and Macomb counties. A firm is to be employed to make the analysis and prepare plan. S. M. Dunn is chairman of the authority.



SHANK AIRPARK TO USE NATURAL ADVANTAGES

Plans for Bob Shank's new 152-acre airport, six miles northwest of downtown Indianapolis, will use a drainage ditch already in field, to separate flying field from spectators' and flyers' parking areas, and will serve most trees, to provide spectators shade. The six-acre field is planned for eventual construction of 12 hangars, 600 by 26 feet each. Entrance and exit bridges across ditch to flying field, make possible one-way turning system for planes. Since 1926, Shank has operated Hooper airport at Indianapolis, recently leased it to Parks Aircraft Sales and Service

Briefing

For Private Flyers and Non-Scheduled Aviation.

By ALEXANDER McSURELY

► Republic's Amphibian—First all-metal production version of Republic Aviation Corp.'s new personal plane amphibian is being groomed for flight tests, following exhaustive flight tests on a plywood and fabric-covered prototype. President Alfred Marschke says the all-metal plane has been completely re-engineered to take advantage of mass production techniques, and mean-time savings. **► Grumman's Lightplane**—A two-place sportplane with top speed of 165 mph, and powered with a 125 hp engine, is said to be Grumman Aircraft Engineering Corp.'s proposed entry into the personal plane market. Plane is designed for high performance and maneuverability, slanted to appeal particularly to military pilots.

► 300 Canada Airstrips—Russell L. Gibson, president, Cuh Aircraft of Canada, Ltd., Hamilton, Ont., has drafted plans to build 300 airstrips in Canadian municipalities with population over 2,000, as post-war employment measure. Towns are being urged to plan sites for strips 1,000-3,000 feet long, and 300 feet wide which could be enlarged if necessary for feeder line operations.

► Oklahoma Flying Farmers—Forming active membership to farmers and their wives who use airplanes in their farming operations, some 30 Oklahoma farmers have established the Oklahoma Flying Farmers chapter of National Aeronautic Association, with headquarters at Stillwater and membership spreading through the state. Several members have instructors' ratings and are teaching neighbors to fly. Planes are used to locate cattle, hunt coyotes, check fence breaks, fly to town for supplies, emergency trips for machinery parts, delivery of light perishable produce to market, etc. Vice-President Forrest Watson, has winter flew in mail and supplies to his snow-bound community at Thomas, and recently took a farm agent on an aerial inspection tour of 165,000 acres of wheat in an hour and a half. Charter is prescribed by W. M. Morgan, Oklahoma state NAA committee to Harry Bombhoff, Okla. GPP president, at recent Oklahoma City meeting.



KENYON'S FLYING CLUB GOES TO WAR

Kenyon College, at Gambier, Ohio, was one of the first colleges to operate its own flying field. Port Kenyon, which opened in 1923, Kenyon's precursor flying club of 1949, above, contained many students who afterwards compressed their aviation careers in military and civil life. Left to right: Ensign John W. Elliott, now Jap prisoner in Philippines; George W. Allanson, St. Joseph, Mo.; Lt. William F. Lescroart, Naval Air Corps; Lt. Stuart W. Rose, USN; Lt. A.

Rodney Boren, USN; Lt. Robert H. Legg, US Army; Maj. George E. Sutton 2nd Air Force; Lt. Murray J. Shubin, AAF, become ace by shooting down 5 Zeros in 42 missions; Lt. Clark L. Henderson, American Airlines; Instructor Donald M. Grester, now with CAA at Fairbanks, Alaska; Charles D. Nichols, American Airlines. Plane in background appears to be low-wing Aerocraft of which model only a small number were built.



POWERPLANT STUDY AT KENYON:

Present picture of Kenyon college attention students in powerplant course shown inside here in military service, aviation or industry. Both ground laboratory course and flight school will be resumed at war's end. Left to right: Lt. Col. Joseph M. Allen, USN; Charles D. Nichols, American Airlines; Instructor Don Grester, Enn. Charles C. Borer, USN; John D. Hughes, Foxsteel Metallurgical Corp.

Kenyon to Resume Aviation Course

With a tradition already established by its flying alumni probably second to no other college Kenyon College at Gambier, Ohio plans to resume its college aeronautics course, as soon as availability of instructors and equipment permit, according to Dr. Gordon K. Chalmers, president.

Meanwhile Port Kenyon, the college airport, is being leased and maintained by Copey-Bossmeter Corp. at nearby Mt. Vernon, O., which uses the field for operations of its Fairchild cabin plane to ferry its engineers between plants.

Kenyon's first airport, in 1934, was provided by an alumna, Wilbur Cummings, a flying enthusiast, who wished to fly his own plane there, and who urged the college to pioneer in aeronautics education. The present field with two hangars and a flyers' lounge, with 120-acre landing area, was opened a year and a half later. A laboratory in the physics building provided facilities for study of powerplants and other aircraft components.

SEAL WALTER



The American public, the aviation industry in general and a number of aircraft manufacturers in particular would like a specific answer to this question... and we wish that we could give it. This much can be said, however, with but little likelihood of disagreement. At no time in the twenty odd years since the world witnessed the first practical flight of a rotary wing ship, has professional and public interest in rotary wing flight been as active as at present, nor has the future of the field been so promising. • The Autogiro Company of

America has been engaged in rotary wing research and development longer than any other organization in America. Its engineering and research staff, its records of development, experimentation and thousands of hours of flight, and the right to use its numerous inventions, offer incalculable assistance to designers. We shall be pleased to discuss details of Autogiro Company licensing arrangements with interested aircraft or other manufacturing executives. • AUTOGIRO COMPANY OF AMERICA, Willow Grove, Pennsylvania.

Composites now producing for the war, under license from the Autogiro Company of America, include:

THE HYSTON TEE & BURNS COMPANY (D. & A. AIRCRAFT, INC.)
HELIOT AIRCRAFT CORPORATION
UNITED AIRCRAFT CORPORATION (EMERSON AIRCRAFT)

**AUTOGIRO COMPANY
OF AMERICA**

COMMENTARY

Battleship-Carrier Fleet Task Force Proves Efficacy in Philippines

Combination of mutually dependent units working in close coordination shows devastating effectiveness.

Although carrier-based aircraft played a strong, possibly a dominating role in the great air-sea battle of the Philippines, surface vessels, including battleships, cruisers and destroyers, played such an important part that the extreme views as to their ultimate usefulness are being modified. Because of the airplane a new method of using the fleet has been developed in this crisis, and a new conception of "sea-air power" has emerged.

Even the most powerful battleships do not fight alone, but as part of the battleship-carrier team. The battleship is a floating gun platform whose newly developed and amazingly effective anti-aircraft armament (3-inch, 48 mm. and 20 mm.) protects the carrier from air attack. Likewise the carrier is a floating aircraft parent whose fighter aircraft protect the battleship. Defensively, both work together, each being vulnerable to the other. Offensively, both have attained a new effectiveness effectively.

Battleships of the Line—Despite the loss of powerful capital ships to aircraft attacks at Tarawa (Hawaii), Pearl Harbor (U. S.) and off Malaya (British), battleships and heavy cruisers will continue to be essential members of the modern naval striking force. The United States now has 23 battleships in commission, besides the two new 27,000-ton, 18-inch, 18-inch gunned battle cruisers Alaska and Guam (four more will join in the CB [carrier-battleship] class, the *Massachusetts*, *Philippines*, *Puerto Rico* and *Bernese*, due for action in 1945).

Of the 23 battleships (BBs), ten are new, including four of the 1939-40 Iowa class (*Iowa*, *New Jersey*, *Missouri* and *Washington*). Two others in this class, the *Birmingham* and *Kentucky*, ordered in September, 1944, have been delayed owing to the higher priority

of the aircraft carrier, which speaks the new naval strategy. The Iowas have a standard displacement of 45,000 tons; dimensions of 862 x 108 x 36; propulsion by four screws, with four pistons, high temperature geared turbines, totaling 300,000 SHP, speed 32 knots, plus armament, 9 x 16" guns in triple turrets, 20 x 5" guns in twin turrets, sixteen 40 mm. and 100 mm. anti-aircraft guns and other AA guns, total crew, 13,500.

Indiana Class—Six other new battleships include the *Indiana* class of 1918 (*Indiana*, *Newark*, *Alabama* and the slightly varying *South Dakota*), and the North Carolina class of 1937 (*North Carolina* and *Washington*). These are all 35,000-toners, 115,000 SHP, speed 30 knots. The 13 other battleships in commission are those of World War I or earlier, modernized as thoroughly as possible, some of course re-modernized after Pearl Harbor. Taken together, the 23 battleships represent a fast, powerful striking force of heavy units unsurpassed in naval history, the stepping stones of an American fleet now greater than all the rest of the world's navies combined.

Queen of the Pacific—The past 14 months, however, have demonstrated that the speediest of naval striking power is the aircraft carrier, and that the wisdom of high priority for the carrier program has been completely vindicated. There are now nearly 100 carriers of all types, including 14 Aircraft Carriers (CV) of the 37,000-ton *Essex* class, carrying 80 airplanes; 6 Aircraft Carriers—Light (CVL), being converted 10,000-ton light cruisers of the *Heermann* class (one of these, the *Princeton*, was lost to the recent Philippines action). The CVLs carry from 35 to 45 planes usually a mixed group of dive bombers, torpedo bombers and fighters. The

series there are more than 70 *Aircraft Carriers—Borers* (CVB), auxiliary carriers with flight decks atop merchant ship hulls, carrying from 20 to 40 airplanes, and with a variety of duties. Two of these were lost in the recent air-sea battle. Speed of the CVs is about 30 knots, the CVLs, 33 knots, and of the CVBs from 16 to 24 knots, depending on type. Three aircraft carriers—*Large* (CVB), 45,000-ton "Battle Carriers," are under construction and should see action in 1945. Of our pre-Pearl Harbor carriers are still in the line the *Borgess* (33,000 tons) *Ranger* (14,500) and *Enterprise* (19,000), each carrying over 80 aircraft.

Carrier Forces of 3rd and 7th Fleets—It will be recalled from the correspondence and press reports of the Philippines air-sea victory that Admiral Kinkaid's 7th Fleet, which cooperates directly with General MacArthur, had a "light-carrier" force, and that part of the Jap strategy was to force a wedge between Kinkaid's fleet and Halsey's. The Japanese opened the action, and as the CVLs were no match for the enemy fleet in a straight surface action, they closed the opponent's warships at the start. Soon, however, from a safer distance the CVLs were able to pepper the Jap fleet with hundreds of Wildcat, Hellcat and Avengers, inflicting heavy damage and causing it to withdraw.

This battle of the Leyte Gulf was a daring and brilliant action and Rear Admiral Spruance, commander of Kinkaid's "light-carrier" force, deserves great credit. Later on, reinforcements of the big fast CVs from one of Vice Admiral Mitscher's carrier task groups (of Halsey's 3rd Fleet) went up with Spruance and the rest was over and complete. It should be noted that Mitscher's task force, composed of five carrier task groups each headed by a Rear Admiral, is the fastest Task Force 58 that designation applied to the large carrier task force led by Mitscher after the big Marshall Islands campaign in February, 1944, when it was the 14th Task Force in Admiral Spruance's 5th Fleet, hence Task Force 58. For the present blitz it has been enlarged and re-organized, and as part of the 3rd Fleet has a number (as yet unannounced) in the 30s, such as Carrier Task Force 35. Its component carrier groups are designated (for example) as Carrier Task Group 35.1, 35.2, etc.

NANTUCKET

A PREVIEW

Vibration frequency — 1200 cycles per minute.
(Within the propeller speed range on many airplanes)

Vibration frequency — 1500 cycles per minute.
(Within the propeller and lower engine speed ranges)

Vibration frequency — 1000 cycles per minute.
(Normal cruising engine speed for most airplanes)

THESE PICTURES PRESENT A PREVIEW OF THE CONDITIONS UNDER WHICH YOUR AIRBORNE ELASTIC SHOCK EQUIPMENT WILL OPERATE DURING FLIGHT.

TWO shock suspensions, both "mounted in rubber" and carrying equal weights, are shown installed side by side on the same shock table with the table set for a horizontal amplitude of 1/32 inch.

The source A is a Robinson Vibro-shock suspension, as manufactured to support a wild electronic set on warplanes. It is a conventional shear type mount formerly used for this same equipment.

These photographs were taken at three vibrating frequencies within aircraft operating ranges. (See captions.) It is apparent that the new mounting of equipment "in rubber" does not assure protection from vibration and shock. In fact, conventional mountings often amplify vibration 300% or more. Robinson engineers use the exclusive double-neutral axis principle, and have as a background the design and manufacture of more than 75,000 complete shock suspensions for the Armed Services.

We can design and build, for your equipment, Vibro-shock suspensions guaranteed to absorb better than 90% of all engine and propeller vibration throughout aircraft operating ranges.

Robinson Aviation offers for the first time a complete shock mount service, available to aircraft and radio manufacturers and users.

*Trade Mark

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730 FIFTH AVENUE, NEW YORK 19, N. Y. • FIRST NATIONAL BUILDING, HOLLYWOOD 28, CALIF.

WHAT HAS THIS TO DO WITH BROACHING?



SOMEWHERE in the dork of a Celebes moon, a silent shape steals closer, ever closer to the menacing bulk of a Japanese heavy cruiser. Suddenly . . . its mighty engines exploding in a thunderous roar . . . it drives home its lethal load and swerves, ready backing, to make good its escape. Aiding in its headlong dash for safety, beyond the reach of vengeful guns, is the careful design and construction of its bow sections . . . a modern scientific development of the ancient, fundamental principle of the Wedge, which has served Man in countless vocages from the first flint axe to the P. T. boat.

ALSO serving mankind in the scientific adoptions of of fundamental engineering principles, Lapointe has been ever first to combine engineering with time-proven principles. Broaching is no longer just another method of removing metal. In the hands of those who plan for Tomorrow, broaching has become a powerful weapon in the war of production . . . and in those same hands, will provide revolutionary achievements in the days of peace, by making things quicker . . . cheaper . . . and better!

The first broaches, or drafts, as they were then called, were drawn, one upon another, through the work piece.



Lapointe Machine Tool Company
NORFOLK, MASSACHUSETTS, U. S. A.

THE WORLD'S LARGEST AND LARGEST MANUFACTURERS OF BROACHES AND BROACHING MACHINES

PERSONNEL

S. C. Bennett recently has joined the staff of the



Aviation Engineering Co. at Farmingdale, N. Y. Bennett has had extensive experience dealing with engineering problems and engineering engineering departments.

George Fierman has been appointed sales manager of Adel Precision Products Corp.'s consumer products division. He plans to establish a network of sales offices in Chicago, Atlanta and Dallas and management of Adel's New York City unit. Fierman has held executive positions with Norg, Kellogg, Stewart-Warner and Youngblood Pressed Steel.

Capt. Harold F. Fick, USN, has received the Bureau Sea Medal for meritorious achievement as commanding officer of an escort ship and as an Atlantic Fleet anti-air warfare task group commander. Captain Fick is now on duty as director of the Aviation Planning Division, Deputy Chief of Naval Operations (AOP).

Arthur E. Smith (photo) has been named assistant chief engineer of Pratt and Whitney Aircraft Division of United Aircraft Corp. He has been chief engineer for Pratt and Whitney Aircraft Corp. of Missouri at Kansas City for the past two years.

Bauer, who has been sales manager of Pratt and Whitney at East Rockford, will replace Smith at Kansas City. Smith was project engineer of the R-5800 engine in 1940 when it reached the production stage. He supervised all engineering activities on the new R-5800-C model until it went into production at Kansas City.

The Board of Directors of General Aircraft Corp., Atlanta, Ga., has announced the resignation of Marlin J. Maynard, Jr., president. Resignation becomes effective Dec. 31 and in the interim period Maynard will be on leave of absence. Other organizational changes include Lawrence W. Naites, Jr., formerly director of contract procurement and personnel, has been named general manager in charge of production, inspection, planning and contract procurement. Andrew Foreman has become factory superintendent, replacing Stanley Belsky, resigned. David Skand has become director of contracts procurement, and Donald McCannick becomes chief of the inspection department, replacing O. C. Leonard.

Mag. Gen. Charles E. Rosenthal, former commanding general of the AAF Materiel Command at Wright Field before its merger with the Air Service Command, and the present Air Technical Service Command, has been awarded the Legion of Merit. The award was given for his work from 1940 to 1943 as district supervisor of the service procurement district of the Materiel Command. General Rosenthal is now on terminal leave awaiting retirement, effective Dec. 31.

Edward G. Ireland (photo), formerly New York road and express traffic representative of the Transportation and Warehouse Union, has been named assistant director of operations for the TWA system. He will work with A. W. French, TWA director of cargo.

Ireland will be headquartered at Kansas City and will spend considerable time in New York coordinating TWA's air cargo program with military carriers. Ireland was formerly vice-president in charge of traffic and terminals for the Liberty Motor Freight Lines, Inc., of Seneca, N. Y., and a director of the Transoceanic, Inc., of Denver.

J. G. Holland is the new general attorney for Continental Air Lines, Inc., and has not been named general counsel to replace Terrell Drinkwater, Jr., previously announced. So anxious to find a water, who has since joined American Airlines, has been named by Continental. The airline has both a general counsel and a general attorney.



G. O. Wiggin

G. O. Wiggin has been appointed assistant general manager of the Aeronautical Chamber of Commerce. He will coordinate the activities of the eight committees of the Aeronautical Chamber of Commerce and assist in the management of the service departments of the Chamber. Prior to joining the Chamber, Wiggin was executive director of Republic Aircraft Engine Division of Fairchild Engine and Airplane Co. He also has served with Continental Aviation Engineering, Fairchild Aircraft Division, and Kermath Airplane and Engine Corp. He is a member of the Institute of Aeronautical Sciences and the Society of Automotive Engineers.

Mag. Raymond G. Fierman has returned to his former position as general manager of the Memphis plant of Fierman Tire and Rubber Co., after having served over two years with the Air Transport Command. He set up the first rubber conversion unit of the ATC and was also rubber conversion officer for the ferrying division of ATC. Mag. Fierman introduced a program to track plants and machinery from handling of newly loaded aircraft to obtain maximum life. He has been observed as a ferrying division pilot.

Richard J. Stevens (photo) has been named superintendent of overhaul at the home maintenance base of Transcontinental and Western Air, Inc., at Kansas City, a veteran of fifteen years with TWA, he assumes the position of superintendent of overhaul.

by Verde A. Shaver, deceased. The new superintendent has been regional maintenance supervisor at the same base since 1938. Stevens joined Aero Corp. in 1938 Stevens joined Aero Corp.



FRONT VIEW—SHOWING
WIND POSITION FOR DRIVING



FRONT VIEW—SHOWING
WIND IN FLYING POSITION

"High" Gear for the family car?

The many and varied structural and mechanical advances in warplane design will be used to advantage in Tinnerman's commercial and private aircraft. Altimount strength has been coupled with lightness of weight. Thousands of pounds have been made subservient to control. The future promises more latitude in design to meet an increased variety of services.

Analysis shows that a surprising number of these engineering advances have been made possible by the solution of friction problems by Fafnir engineering and manufacturing skill. Fafnir Ball Bearings, properly designed and produced for strength and sensitivity in all vital turning points, have prevented aircraft

engineers to obtain the greatest efficiency from their control system designs.

Whatever the transformation of aircraft from the sorcery of war to the flight of peace, Fafnir will have the right ball bearings for each requirement. We will continue to make it sound practice for aircraft engineers to specify Fafnir Ball Bearings. The Fafnir Bearing Company, New Britain, Conn.

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Taking to the air or ready to it, Fafnir is in highest, the value of 2000 day, require a third of cost dimensions—a new "High" gear! The Flying Boat—built on a new design for four passengers—has a sturdy wings that telescope and fold up and for grouping or road travel. A push of a button transfers it to an airplane capable of 180 to 250 m.p.h.—and more complete "flexibility" extends beyond for business!

FREE—



The Complete Series of Prints of Some of the Greatest Aircraft of Tomorrow. Designs, of which there are the first in the world, find the world's first. These are reports to be given to you in the form of a book for your reference in the future. Some of the designs are only in the form of a sketch, and some are only in the form of a sketch. Some of the designs are only in the form of a sketch, and some are only in the form of a sketch.

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New Britain, Conn. 06053
Please send me the Series of Prints—
"Aircraft of Tomorrow"

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Time Name _____

of California, a predecessor company to TWA.

Ed Herold has been named executive and mail transportation for Pan American Airways' Alaska Sector. Herold worked ten years for Cresent Line and became assistant traffic manager. In 1942 he joined Pan American as chief representative in Seattle and later served as assistant to the traffic manager before his promotion Oct. 1 to executive and mail superintendent.

J. J. Russell recently joined work manager of the Fort William, Ont., plant of Canadian Car and Foundry, Ltd., asking Clinton McElwain for the U. S. Navy, has been appointed assistant general manager of the Aircraft Division of Canadian Car and Foundry, with offices in Montreal. He succeeded by W. O. Wink, who was manager in charge of sub-contract and assistant general work manager at the Fort William plant.

Ray M. Jackson has been appointed assistant to the general counsel of Bessett Airways. During the last five years he has been assistant to the resident attorney and in the contract division of Transcontinental and Western Air, Inc., in Kansas City.

Bob Roberts, former Associated Press war photographer and recently head of the photo department of Pan American Airways, is on a leave of absence with the Communications of Latin American Affairs. He is now taking pictures in Brazil.

Maik W. O. Eder has assigned command of the AAF Base Unit at Henslow Field, Greenville, S. C., replacing Major William A. Buechner who has been assigned to Headquarters Field, Sebring, Fla.

Lieut. Gen. Carl Spaatz, commanding general of the U. S. Strategic Air Force in the European Theater, has been awarded the Oak Leaf Cluster to the Distinguished Service Medal for exceptionally meritorious service as commander of the Strategic Air Force in Europe, consisting of two widely separated Air Forces. The citation of his three years' strategic aerial bombardment of Germany and Europe, is: "The outstanding achievement of the enemy supply and maintenance system in the European Theater was brought about by the Strategic Air Force." Spaatz is the first to receive the Oak Leaf Cluster.

J. E. White, project manager in charge of construction, procurement and equipment for the new plant of the Krupp Forge Aviation Co.,



TEN YEARS WITH PCA:

John Hoover Schantz, Pennsylvania Central Airlines' foreman of line maintenance, stationed in Des Moines, came to Washington especially to receive a ten-year award from C. Beckett Moore, president. After a year of mechanical experience with one of the transcontinental airlines, Schantz joined PCA in 1932 and was assigned to Cleveland and later moved to Pittsburgh.

Chicago, has been appointed sales engineering representative of the company for the northern part of Illinois. While joined Krupp Forge in the formative stages of the aviation plant development and made a record in erecting and equipping the new buildings.

Gerald T. Jones, assistant shop superintendent at the Trans-Atlantic headquarters of Pan American Airways, LaGuardia Field, New York, recently received his 15-year service pin and a personal letter of appreciation from Juan T. Tripp, president Juan Tripp.



Alexander in Russia where he was employed in aviation by the British government and later contacted his Russian shop. As co-pilot, radio officer and flight engineer aboard the Sikorski and Martin flying boats, he logged 1,750 flight hours.

Edith Denison of Bendix Aviation Corp. announces appointment of August Roederer, now known as Bendix radio, as district manager of the Middle Atlantic territory, and Royal Viles, former official of the War Production Board, as district manager of the southeastern territory. Bendix recently announced its program for manufacturing and marketing a complete line of aviation radio sets as soon as the military situation permits.

TELLING THE WORLD

• Maj. Charles E. Hammer, now on inactive status after two years service in the Army Air Forces, has joined Hill and Knowlton, public relations consultants. Major Hammer, former National and aviation writer and foreign correspondent of the Associated Press, was with N. W. Ayer and Son, Inc., previous to joining the Army. Hill and Knowlton handles numerous aviation accounts.

• Hugh H. Johnson, for the past three years director of advertising for the Bell Aircraft Co., with headquarters in Buffalo, has resigned to join Arthur Kullen, Inc., as assistant director of media. Before joining Bell, Johnson had been assistant to the director of merchandising of the Buick Motor Division of General Motors.

Mercy Flight

An Army plane bailed 200 miles recently to save the life of Seaman (Bud) Charles E. Dillingham, Bensenville, N. C. Maj. Waldo B. Jones, former A-29 pilot in Italy, flew the plane which carried Dillingham from Asheville-Hendersonville, N. C., air base, to the Navy Hospital at Charleston, S. C., where amputation was available. A delicate brain operation necessary to save the victim, he had been wounded in the head at a training accident while home on leave.

An eight-minute change of a complete set of spark-plugs in one engine of the Lockheed Ventura, by the ground crew, made possible delivery of the order to the Charleston Army airfield by Major Jones, one hour and 20 minutes after the North Carolina base had been alerted to make the flight.

Gets Far East Post

Air Chief Marshall Sir Trafford Leigh-Mallory, Commander in Chief of the Allied Expeditionary Air Force under Gen. Dwight D. Eisenhower, has been named Allied Air Commander in Chief in Southeast Asia. Air operations in western Europe will come under General Eisenhower's deputy overall commander, Air Chief Marshal Sir Arthur Tedder.

Looks Simple?

—here's what it takes to make a good DISCONNECT PLUG

• These are more than 35 precision-made parts in the average Multiple Circuit Electrical Connector. When assembled, they perform their function—that of making or breaking many electrical circuits simultaneously—with the utmost simplicity and efficiency. Such simplicity in operation is the end result of years of research, many refinements and great skill in manufacture. The Breeze Multiple Circuit Electrical Connector reflects in the efficiency with which it does its job, the experience which went into its production—the background which has made Breeze a leading producer of many different types of aircraft and electrical accessories.

Breeze **BREEZE MARK**
CORPORATIONS, INC.
RENNES, PA.

PRODUCTION FOR VICTORY — PRODUCTS FOR PEACE

AVIATION NEWS • November 5, 1944

New Hartwell bottom air compressor has been performance tested from sea level to 30,000 ft.



H-6520

BANTAM AIR COMPRESSOR

Provides New Vacuum Source

The Hartwell bottom air compressor meets the need for a compact, lightweight vacuum source for aircraft. Designed to solve the problem of one of the nation's largest aircraft manufacturers, it is being enthusiastically received by all who have tested it.

Here is a typical performance rating: Operating at 2,000 r.p.m. at an altitude of 30,000 feet, the Hartwell air compressor's output is 73 c.f.m. under a pressure of 9 lbs. p.s.i.

Performance tests from sea level to 30,000 feet have proven the strength and dependability of this new lightweight air compressor. Made with a minimum number of parts, it is built to give long term continuous service. All material finishes and processes conform to or exceed applicable AN specifications.

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PRODUCTION

Canadians Study Plans to Convert Mushroomed Aviation Industry

Continuation of sizable manufacturing organization after war with view to cooperation with RCAF in designing and building civil and military aircraft proposed.

Post-war activities of the mushroomed Canadian aircraft industry which before the war employed fewer than 1,000 people and now employs, with subcontractors, nearly one percent of the Canadian population, is being widely discussed in the Dominion as the future of the United States industry is in this country.

Several plans have been brought forward. One which looks for a continuing sizable aircraft industry, calls for the industry designing and building new types of military aircraft in close cooperation with the Royal Canadian Air Force. Canada has always used either American or British designed aircraft, both civil and military, with the exception of the Noorduyn Norseman (UC-64) which was designed in Canada to meet Canadian bush freight conditions. No engine was so yet being built in the Dominion and establishment of an engine-building industry also has been suggested.

Look for New Lines—Meanwhile, Canadian aircraft plants, with war orders gradually terminating, and a number of contracts expected to

be completed early in 1945, are looking for new work. Automotive equipment and metal furniture have been rumored as lines being considered for the immediate period following contract termination.

Outlets recently reported include that for the Canadian PRY flying boats at Boeing Aircraft of Canada, Vancouver; Curtiss Bulldogs at Fairchild Aircraft Ltd., Montreal; advanced trimmers and Messerschmitt transients at Noorduyn Aviation, Ltd., Montreal. The Montreal plants have received subcontracts for Mosquito and Lancaster bomber parts, as has Fleet Aircraft of Canada, Port Hope, Ont., and Boeing is making parts for their B-24 Superfortresses at Vancouver.

Conference—A national conference of labor and management to discuss the future of the aircraft industry in Canada has been requested by several leaders of the International Association of Machinists. The meeting recognized that Canada could not continue to support an aircraft industry employing 120,000 people as at present, and that management was un-

able to make concrete plans for the future, due to the precarious financial condition of the industry.

The Machinists meeting, which requested the conference, went on record to the effect that Canada was maintaining an aircraft industry of substantial size to supply the domestic market and compete in the export field.

The conference also drafted a post-war civil aviation policy, including planned development of airport facilities, development of cheap and efficient air transport with neighboring nations, full utilization of Canadian geographical positions and government subsidies to small airlines to effect uniform wages and working standards throughout the industry.

IAS Meets this Week

Thirteen technical papers dealing with aircraft accessories and equipment will be presented in four technical sessions of the National Fall meeting of the Institute of Aeronautical Sciences in Dayton this week.

Radio noise in aircraft, aircraft engine pipe noise, operational methods in servo-mechanism design, potentialities of a capacitance measurement method for fuel quantity gauges in aircraft, airborne electron computing gear, night, electronic controls in aircraft are on the agenda.

Col. Helm Is Re-Buzzed—The Thurston H. Bass award for 1944 will be presented as Thursday evening to Col. Donald J. Helm of the Power plant laboratory, Air Technical Service Command for his contribution to the development and utilization of the new jet propulsive engine.

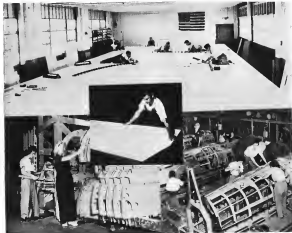


AIRBORNE TANKS POWERED BY LYCOMING:

One of the first photographs of the airborne tanks which have been playing an important role in the Allied advance across Europe is shown above. Builders are the Lycoming engine plant at Williamsport,



Pa., and the Marmon-Herrington plant at Indianapolis. The engine is Lycoming's direct drive, six-cylinder, horizontally opposed, air-cooled engine, described as a "packaged power" unit.



"Ray-Producer" Speeds Republic Output: Shown above are technicians at Republic Aviation working full-scale engineering layouts through a white overcoating to a luminous-coated sheet of metal. That single operation makes a reproduction negative from which copies are made on sensitized materials by single photographic printing. The luminous draw-

ing charts light, and throw it off for printing in a dark room. Inset shows a metal positive being developed. The two-bern process has just been duplicated by Republic, which holds basic patents on the operation. The two lower pictures show women workers at the plant fitting fabricated parts into P-47 fuselages.

Republic Develops New Tooling Process

System said to speed aircraft layout production methods.

A process designed to expedite the tooling job in aircraft production involving hundreds of sub-components and marking a major improvement in the art of tooling has just been disclosed by Republic Aviation Corp.

Republic engineers report that it will greatly improve layout reproduction methods for all instructions using tools, dies, jigs, fixtures and templates, although it was designed specifically for aircraft.

► **"Ray Producer"**—Called "Ray Producer" and employing a patented luminous coating on metal to make reproduction negatives, the

process is credited by Republic with great speed and accuracy and as a prime element in their production of P-47 Thunderbolt fighters, of which they have built more than 18,000 in two and a half years.

In the process, negatives from which any number of master reproductions may be made by simple photographic printing, are produced merely by drawing full scale engineering layouts on metal to which the luminous coating has been applied. These patterns are held by Republic.

In operating the process, luminous-coated metal is used as a drawing surface in producing negatives larger than 48 inches by 30 inches. For smaller detail layout, the negatives are made by drawing on coated Mylarite, a transparent plastic to which Re-

public applies a special opaque coating.

► **Features**—The metal sheets which sometimes convert into reproductions have an overcoating of white masking material, protecting a smooth drawing surface on which preliminary pencil work may be done. Then, by using an ordinary drafting instrument with a sharp point, a leftman scribes through the overcoating, exposing the luminous-coated surface underneath with exactly the lines, curves and angles that interpret the engineer's design translated by the layout.

By mere exposure to strong light, either natural or artificial, the exposed luminous lines and curves are activated sufficiently to radiate rays in a photographic dark room. Printing from this negative merely involves placing



It's well over 8,000 airline miles from Los Angeles to Calcutta. No small distance even in these days of global air transportation. Yet, surprisingly, flight mileage equal to more than four round trips over this route is the extent of the daily operational flying at the Ryan School of Aeronautics.*

The Ryan School has had 22 years of experience in dealing with the problems of daily flight operations. It already has hundreds of skilled pilots and technicians in its organization. With these assets, it is well equipped to undertake the operation of extensive airline service.

The Ryan School has always looked ahead with confidence in the future of aviation. That is why it now is pending before the Civil Aeronautics Board applications to engage in major airline activities. Ryan's accumulated experience, trained personnel and ample financial resources can serve to bring healthy competition under the Ryan banner into the air transportation field.

Little wonder it is that in its wartime assignment Ryan Schools have produced thousands of American pilots now active on global fighting fronts... their primary training accomplished on Ryan PT-22's... their background the smooth-functioning Ryan organization.

*All Ryan schools building here at West Covina, and Tustin, Orange.

BUY ON RYAN TO BUILD WELL



**RYAN
SCHOOLS**

RYAN SCHOOLS OF AERONAUTICS, SAN DIEGO, CALIFORNIA
OPERATING: LAUREL HAVEN, CARSONVILLE, AND TUSTIN, ARIZONA
THE RYAN SCHOOLS ARE SUBSIDIARIES OF THE RYAN AERONAUTICAL COMPANY

Aerocon Conduit

— FOR ALL SHIELDING APPLICATIONS

High Tension — Aerocon type 154 was first developed by Titeflex engineers to provide the steepest and most efficient shielding conduit to blank out radio interference from high-tension radio ignition systems. Aerocon or its equivalent is now specified by both Army and Navy Air Forces for the shielding of ignition cables.

Low Tension — In addition to shielding of high-tension systems, Aerocon type 154 is now being used extensively for difficult shielding problems on low-tension systems. Aerocon is used on electrical wiring from magnets to the ground switch, high voltage power lines

to sensitive electronic devices, as well as lines from the booster coil to the instrument panel.

Aerocon is Standard — Titeflex Aerocon type 154, in its equivalent, is now specified by both the Army and the Navy for high and low-tension shielding... whenever electrical connections on airplane or engine must be radio-shielded. Inquiries from aircraft manufacturers will receive the immediate attention of our engineering staff.

TITEFLEX, INC.
308 Pillinghams Avenue
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in a contact problem with a previously mentioned sheet of material. Exposure of two or three minutes is sufficient to reproduce the drawing. The positive sheet, which may be metal, wood, plastic, paper or any material that has been combined with the requisite emulsion, is then developed under usual photographic solutions.

Marchev Minimizes Reconversion Needs

Republic Aviation president sees problem as mainly one of neocon-domic shrinkage and revision.

Contraction and adjustment rather than reconversion is the principal problem facing the aircraft manufacturing industry, in the opinion of Alfred Marchev, president, Republic Aviation Corp. In a different approach to post-war problems from that usually taken, Marchev said he did not hold with those who contend that the industry will lose approximately 80 percent of its present business simply because it does not have that much to lose, since he estimated that about 90 percent of the present production is being done by subcontractors, many of whom are eager to get back to a peacetime production base.

Overline — He estimated 30 percent who due to wartime work that would not be necessary to meet post-war requirements and that at least 10 percent could be turned to workers who are in the industry as a wartime measure.

It is his opinion, as expressed before the Advertising Club of New York, that the aircraft industry will not have to make any voluntary adjustments after the war on a basis of five percent of the present aircraft industry business.

It should be noted that Marchev is regarded among his colleagues as the top executive branch of the industry as an operator.

Fresh Start With Peace — He contends, however, that with peace the industry will get a fresh start and that the cost of peacetime airplanes will be reduced sharply as a result of manufacturing exper-

ience gained during the war. He foresees a revolution within the industry out of which will come planes so much better and so much cheaper than anything the civilian market has seen before that aviation will retain its position as one of the greatest industries in the world, with horizons unlimited.

While problems of design, manufacture and financial readjustments are present, Marchev believes the biggest problem is the learning of the know-how of manufacturing and distribution.

Allison to Make Jet Units for AAF

Company is first manufacturer of reciprocating engines to enter JP field.

Production of the first jet propeller units by Allison Division of General Motors for the Army Air Forces will begin shortly after the first of the year, it was disclosed last week by E. B. Newell, general manager, who said preparations have been under way for some time looking to quality output.

The new production assignment is in addition to present production and delivery schedules on Allison liquid-cooled V-1710 aircraft engines, of which more than 60,000 have been built since the start of the war.

Wide Range of Products — Allison is the first producer of reciprocating engines to enter the jet field and will have a range of products not matched by any other manufacturer of airplane power at this time, although other engine companies have plans for jet and turbine power plants. General Electric Co. was the first United States manufacturer elected to produce in the United States the jet propeller unit for Bell Aircraft jet plane.

Allison will cooperate with the AAF Air Technical Service Command and General Electric in the manufacture of the units. Newell said a large number of subassemblies are being engaged and necessary tools and machinery being purchased.

Test Cells — To provide necessary new facilities, 17 specially designed test cells will be constructed and additions built to two departments at Allison. Cost of this construction, together with purchase of necessary tools and equipment, is covered by a contract of DPC for \$12,500,000.



P-47 BRINGS HIM HOME:

This Republic P-47 Thunderbolt pilot, Capt. Roy T. Flagg, flew low to strike a truck column in German territory, as low that even his propeller was shot, but wings dropped beyond repair and the stabilizer a twisted mass of metal.

Ford Glider Order

A new contract for construction of 2,000 additional troop-carrying gliders for the Army Air Forces will be manufactured at the company's Iron Mountain, Mich. plant to be completed by December 1945.

Production will be started as soon as present contract requirements are completed. The gliders will be manufactured at the company's Iron Mountain, Mich. plant. With completion of the new contract, Ford will have made more than 5,000 of the ships.

Turbo-Superchargers — A slide from the new contract, Ford reports they have produced 32,244 aviation turbo-superchargers. Total man-hours spent on each unit have been reduced from 618.74 in the first month when production was started at Ford, Jan. 1942, to 169.35. At employment peak on the supercharger job there were 3,700 workers. Now there are approximately 1,000.

Shift to Launchers

Firestone Tire and Rubber Co. has completed shift from manufacture of Bofors 90-mm anti-aircraft guns to plane rocket launchers in quantity.

Firestone-built launchers are adaptable to wings of Lockheed P-35 Lightnings, Bell P-39 Avengers, Douglas A-20 Bostons and North American A-36 Invaders (P-51). Firestone is fabricating the launchers from magnesium and plastic-hardened paper.

RUST-PROOFING



FREE This 36-page booklet tells how Texaco Rustproof Compound prevents rust, where and how to apply it, and why it is so successful. Every industrial executive and engineer should have a copy. A single suggestion in this booklet may save thousands of dollars. Send for your copy today!



A RECONVERSION REQUIREMENT..

IMPORTANT in any plan for smooth, speedy reconversion to peacetime production is protection of unused equipment against destructive RUST. Government-owned equipment, according to official specifications, must be rustproofed with minimum delay after "shut-down". And if the equipment is your own, you will likewise wish to protect it fully until it is disposed of or put back in use.

In either case, you will find *Texaco Rustproof Compound* and other Texaco rust preventives thoroughly effective—for weeks or years—in protecting costly machines, precision tools, and other production equipment. These tested-in-use products meet Government specifications for exterior or interior application.

Easily applied with brush or spray gun, *Texaco Rustproof Compound* provides a penetrating, self-sealing film which is not only waterproof but also resistant to chemicals and fumes. It remains pliable, healing over any scratches and abrasions. It is long-lasting and extremely economical.

Texaco Rustproof Compound has proved highly successful in protecting all types of parts and equipment from weather and salt water in overseas shipments.

No matter what your rustproofing requirements—exterior or interior—there is a suitable Texaco rustproofing product to meet your needs, available to you through more than 2500 Texaco distributing points in the 48 States. **Order NOW!**

The Texas Company, 135 East 42nd Street, New York 17, N. Y.



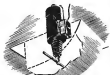
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Rustproofing Products

TUNE IN THE TEXACO STAR THEATRE EVERY SUNDAY NIGHT—CBS HELP WIN THE WAR BY RETURNING EMPTY DRUMS PROMPTLY

Wartime Experience for Finer Peacetime Flying

TEMPERATURE CONTROL. From today's *Journal of Research*, ARH Research has engineered lighter-weight, ultra-wide-range intercoolers, improved aftercoolers... and run-cooling oil coolers. These will help reduce postwar operating costs, make air transport more comfortable, safer and swifter.



AIR CONTROL Developed for U.S. warplanes, the AirControl Automatic Fuel Flow Control System offers commercial winners many advantages in temperature control, increased speed by cutting open flap time, and greater engine protection for high altitude flight.



PRESSURE CONTROL. From this giant Aillessworth "Burstab" will come the automatic air control device to successfully pressure surface tubes... to provide Aillessworth "core fast-protection" that will make high altitude sensitive fracture and probable

These are but a few examples of how AiResearch's specialized experience will benefit penostome flying. Perhaps you can profit by this warborn experience.

AiResearch
DIVISION OF
THE GARRETT CORPORATION

ATSC Trains 3,000 For Termination Job

Organisation gives priority on selection of officers outside of combat zone.

Air Technical Service Command now has first priority on officers for contract assignment and reversion to civilian production, wherever they may be located out of the combat zones.

Mag. Gen. Bennett E. Meyers, deputy director of ATSC, is disclosing the story.



Vickers Wage Plan Held Up as Model

Indorsed by Canadian Canadian War Expenditures Committee which recommends other plans follow intensive program.

The wage incentive plan used by Canadian Vickers aircraft division at its Montreal plant has been endorsed by the Canadian House of Commons War Expenditures Committee. The committee has recommended that other Canadian aircraft manufacturers study and use the plan wherever practicable.

General Meyers said ATSC not only was training men to handle the details of contract termination, but also was offering to manufacturers all the information at their disposal to help in winding up contracts on the producer's end.

Manufacturers are being invited to attend meetings in the six procurement districts to see demonstrated steps in preparation for termination and requirements which must be met. Sessions vary from one-day meetings to courses that last over several days.

1st York Completed At Toronto Plant

The first York transport version of the Lancaster bomber, has been completed at Victory Aircraft Ltd., Toronto, government-owned factory making Lancaster bombers and Lancaster (real) planes for Trans-Canada Air Lines. The York was to have been built in quantity, but after the first plane was started the contract was cancelled and the Canadian government decided to build Douglas DC-6 transports instead at Canadian Vickers Ltd., Montreal.

► **Fairly Wide**—The York differs markedly from the *Leontideus*

in its fuselage, which is wider than the Lancaster, and is nearly as long, high and wide as a box car. It can carry 60 passengers comfortably and cargo, including tanks.

The plane, built at Toronto, has a range of about 3,000 miles, is powered with four Rolls-Royce 1,350 hp engines, a wing spread of 102 feet, over-all length of 75 feet and weighs 31 tons. It has a landing speed of 100 mph. and top speed of around 300 miles.



NEW PLEXIGLAS USE

The latest application of Plexiglas, the *Acrylic Glass* plastic used on bomber noses and other aircraft enclosures, is a bell cap center punch, used in aircraft production both for centering holes in template work and for providing a drill point at the necessary 90 degree angle to the surface. Developed by Curran-Wright, the bell cap is made of transparent Plexiglas, permitting the operator to visualize the point visually.

Ends Confusion—Graphical symbols have been worked into a consistent set that will eliminate confusion existing where one symbol meant two different pieces of equipment and sometimes two different symbols meant the same thing.

Copies of the Coordination of Electrical Graphical Symbols Z39.11-1944, may be obtained for 10 cents each from the American Standards Association, 39 West 39th street, New York 18, N. Y.

Canadian Fairchild Considers New Line

Fairchild Aircraft, Ltd., of Montreal, which will complete its present contract for Curtiss Hell divers next month, and faced with the prospect "that there may be no further military contracts available to the company," is studying the possibility of temporarily entering some other type of manufacture to maintain the organization.

First Canadian Announcement—H. M. Parnon, president of the Canadian Fairchild Company, made the first announcement of any Canadian aircraft company or attempts to determine some other phase of activity to keep production facilities and organization intact "until the situation with respect to the manufacture of aircraft has become clarified."

New Symbol System

A coordinated system of indicating electrical circuits and equipment on engineering drawings has been worked out by the American Standards Association and is now available to industries.

RUSSIA

Threat... or Promise?

WHEN this war is ended, two nations—the United States and Russia—will possess the bulk of the world's military and industrial might.

Whether this new situation will hold seeds of catastrophe or of unprecedented opportunity will be determined by policies... still to be formulated.

If this concentration of power leads to a latter struggle for supremacy, then the world will be turned into a giant armaments factory.

If it is used cooperatively to maintain order, then, I believe, the stage is set for a long era of prosperity... and peace.

In this time that Americans, whether of the Right or the Left, face this basic issue squarely and open-mindedly.

No group in that country has a greater stake than have business and industry in seeing that a satisfactory Russian-American understanding is reached.

Without such an understanding there can be no reasonable hope for more than a temporary and insignificant reduction of our crushing wartime tax burden.

There is a clash between these two points of view, unless leaders our governments will run the risk of leading on a scale adequate to maintain international trade at levels necessary for our future prosperity. Potential international contention, instead of buying freely in open world markets, will be fostered during the dangerous period introduced by Hitler in the early 1930's—into the trading circle of whatever power they fear most.

If, however, Moscow and Washington will agree on cooperative plans for maintaining the peace, American business will enjoy enormous new trade opportunities after the war.

Russia, during the three and one-half years since it was attacked by Hitler, has conclusively proved to be a devoted ally in the military power.

Soviet industry did not break down under the strain of war.

Regions accounting for nearly 70 per cent of Stalin's key industries were captured by the invading Nazis, but they fell. Soviet engineers, engineers performed a near miracle by transplanting entire industries a thousand miles to the Urals with the loss of as little as four months' production in many cases.

Though American planes, trucks, and medical supplies have been welcomed by Russia, billions demanded the admission that more than 50 per cent of American production has not gone to the Russian front.

Russian planning and Russian equipment was the victors of Leningrad, Stalingrad, and the Caucasus.

But these measures of Soviet military strength—indicative as they are of an unexpected economic development—fail to picture in adequate detail the startling potential of the Russian market after the war.

Russia, for instance, has two and one-half times the area of the United States.

It has a population of nearly 200,000,000, and this is increasing at the rate of 3,000,000 a year.

And statistics just released show that Russia has three times as many generations under 16 as has the United States. This is a measure both of your potential end of a vast commercial market.

And remember that in no part of the world before the war was our coal production rising as rapidly as in the Soviet Union.

German armies occupied a region in Russia roughly equivalent to the territory in the United States north of Richmond, Virginia, and east of the Mississippi.

This huge area—with its counterparts of Pittsburgh, Buffalo, and Bridgeport, of Illinois corn fields, New York dairy farms, and Maine potato harvests—was twice subjected to the most withering destruction first by the Russians themselves when they retreated before the Germans, and then by the Germans when they withdrew before the Russian advance.

As a result, 30,000,000 people are in urgent need of complete reequipping. They need houses and shoe leathers, tractors and baby carriages, tractors and livestock, hydroelectric plants and electric light bulbs.

Many of these needs will be met at home. It is doubtful, for instance, if Moscow will import cooking stoves or sewing machines, for many of Russia's huge war factories can quickly be converted to peacetime production of such consumer goods.

But for the rebuilding and expansion of her industries Russia looks to the United States for equipment.

Soviet representatives already are in this country with authority to negotiate for technical men and the equipment necessary to rebuild the great Dnieper coal mines according to the most modern American methods.

It is important to remember that Russia's whole iron and steel industry, its non-ferrous mining and processing, some of its oil production, much of its coal, rubber and gas recovery, practically its entire automobile and tractor industry, and the largest of its hydroelectric plants, are based on American machinery and processes.

It is known among manufacturers that Russia recently has asked for bids on shipbuilding equipment, construction and rebuilding machinery, alloy steels, textile machines, photos, and a long list of rail, air, and water transport supplies.

The Soviet Union, however, has more than a rehabilitation job on its desiring hands.

The first Five-Year Plan, which, as we all remember, was completed almost at the close of 1933, was devoted almost exclusively to heavy industry. Russia set out to build for itself the machines and the factories which, in later years, could turn out, at home, modern equipment for a vast range of light industries.

Stalin, when he inaugurated the second of his famous Five-Year Plans, promised that before its completion Soviet factories would begin to turn out a few of con-

sumer goods—ready-made dresses, canned foods, soap, cameras, shoes, kitchenware, automobiles, telephones, and modern homes.

But, by 1933, Moscow realized that Russia could not afford to enjoy such luxuries as the free of competition political system in Europe. So, when the third Five-Year Plan was launched, there was no flinching. Russians continued to wear their old clothes, to eat whatever staple food was available, and began grudgingly to build the industries which ultimately produced enough leather, glass, soap, and guns to turn the tide of battle at Stalingrad.

It is characteristic of Moscow that even before the last battles with the Nazis are over, Russia is planning to pick up its Five-Year Plans where the war had interrupted them.

Invitations to participate in a permanent exhibition in Moscow already have been mailed to American manufacturers. Soviet officials want their public to see examples of our new machine tools, sharmans and alloy products, air-drilling machinery, bulldozers, and precast concrete. And, conversely, Russia is perfecting specific plans to resume the job (1) of making the country an industrial giant comparable to the United States, and (2) of making life more pleasant for a long-suffering people.

What is the measure of this postwar market in the Soviet Union?

Some estimates place the total quantity of goods which Russia might take from the United States during the first two or three years after the war as high as \$100,000,000 a year. Then, as Russian industry is re-created, imports from the United States might taper off perhaps to \$20,000,000 a year.

Actually, these estimates are far too optimistic, unless the United States is prepared (1) to help Russia pay by buying vast quantities of Soviet raw materials, and (2) to provide large credits to handle the purchases during the first few years of rehabilitation.

The relations of American exporters with Russia during the period covered by the three Five-Year Plans have been extremely satisfactory. Moscow has met all of its obligations promptly, almost without exception. It has reduced contract firms to the point where they can meet a minimum of understanding between the Russian representatives and the American producers; individual American companies with extensive present experience in handling Soviet business already are offering large credits on unpaid past-due orders though these may yet be repaid by large government credits at lower interest rates.

But the volume of trade with Russia after the war hinges upon Moscow's ability to pay. Never before the war did the United States buy more than \$20,000,000 of goods a year from Russia. At late as 1933, Soviet exports to this country amounted to as little as \$25,000,000, for less than enough to pay even the service charges on the credits which would have to be extended in connection with exports of several billion dollars a year. Only South Africa produces more net gold each year than the Soviet Union. But the United States does not want gold, more of it would only complicate the problem of controlling prices here.

If the United States, however, is to achieve, after the war, the high level of national income which is necessary (1) to keep our expanded factories in operation, and (2) to service the national debt, it might shrewdly from \$20,000,000 to \$100,000,000 a year of the kind of goods bought from Russia before the war—furs, timber,

measures, chemicals, and handicrafts. But unless this volume of purchases from Russia can be boosted by another \$200,000,000 annually, credits of the size necessary to fill immediate Russian needs could not be serviced without large supplemental opportunities of undesirable gold.

The nub of the situation is that Russia offers an extraordinary potential market particularly for our heavy industries which have grown so enormously during the war. But if this market is to be maintained, then the United States must find a way to import from Russia (or from Russia's debtors if any) from ten to twenty times as much as we did before the war. Instead of merely going after the export business, American businessmen must explore with the Russians the possibility of buying larger supplies of Soviet products.

But more than the Russian market itself hinges upon sound cooperative action by the world's two leading industrial nations.

If trade between them is held to a minimum and if relations are strained, the flow of trade all over the world will be adversely affected.

Russia, long this country's largest export market, certainly will never take the bold step necessary to reconstitute its economy on a peacetime basis if Russia and the United States drift into a race for military supremacy.

The Balkan states, which may be intimidated by Moscow in order to meet their demands on Germany, and the Arab world with its huge need for transportation, irrigation, and sanitation, will not dare accept American credits or make big contracts with American engineers if Moscow frowns on the deals.

And without Russia and the United States to work cooperatively to maintain the peace world-wide, their present embryonic stages, all dreams of a vast industrialization program for China.

The opportunity to make a major change in the trade map of the world and at the same time to achieve a sharp rise in our own standard of living is before us.

It demands of American business leaders the kind of boldness and imagination that their predecessors displayed when they pioneered this country's unknown West.

It demands realistic action by men who know that the solution to this country's most foreign trade problem under today's conditions, lies in boosting exports not exports alone... men who are not afraid of being paid for what they sell.

It calls for leaders who will approach Moscow and other super powers at once with constructive plans that would parallel in scope those on which this country is waging war... leaders who will make it clear at the outset that this bid for cooperative action emphatically demands that each nation itself have complete freedom to determine its internal political and economic organization without interference from the other.

It is this caliber of leadership upon which our future hinges.

James H. McCreary, Jr.

President McGraw-Hill Publishing Company, Inc.

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[illegible]

In view of the threatened extinction of Manx, two attempts in Britain, with little success, were made about 1930 to reintroduce a population on the coast near Porthcerry. The first, by the British Birds of Conservation, failed, and the second, by the Ornithological Society of Great Britain, was only partially successful. The Manx was reintroduced to the island of Arran, Scotland, in 1934, and to the island of Rhé, France, in 1935. In 1936, a small colony of Manx was introduced to the island of Southey, California, U.S.A., and in 1937, to the island of Santa Cruz, Argentina.

At a school in the **EL PASO TECHNICAL INSTITUTE**, with its known-
world travel and distribution network of Western Airlines, students also
PNS, as well as larger airports and have more than 100,000. Other
students have continued to work into the school during the winter
time, early winter and holiday periods, during the difficult time of
last year. Although service was not available to all students in
the continuing phase in previous Aviation, students are available
upon discharge.

And so, as the distinguished old school of American actors is put away, it goes on with a disappointed new one—CHUCK LORRE, TECHNICAL THEATRE, says that in his experience the old was less keen to dole out a star's secrets to the American public.

FINANCIAL

Record Earnings of Airlines Not Likely to Affect Dividends

Return of more planes to industry has given sharp fillip to incomes but bulk of funds is expected to be ploughed back into business in view of great need for capital.

Increased dividends will hardly follow mounting net income earnings this year, although profits during the current record half are up.

the current season that are turning in at record levels and promise to bring the final results for 1994 well above previous years. Chiefly responsible for this showing is the return of more planes to the industry which has imparted tremendous leverage to airline earnings.

Nevertheless, unless stockholders will see but a small fraction of their current profits in the form of immediate dividends. The great bulk of earnings will go to

linear to be "ploughed" back and re-employed in the industry. The need for additional capital appears almost unmet. The proposed recapitalization of American Airlines calling for upwards of \$25-300,000 in potential new funds is but another reminder of capital demands of the group.

Capital Appreciation: The expanding and growth characteristics of the airlines will hardly permit any liberal dividend disbursements over the near term. But this is expected, as serious investors never looked to airline securities as a source of stable, assured dividend income. The airlines have always held forth their greatest attraction in the form of capital appreciation. The fact also remains that the retention of earnings is constantly building up the equity of the shareholders.

disbursements are in relation to earnings is indicated by the \$8.23 per common share earnings reported by American for last year.

✦ **United**—United Air Lines first paid 20 cents per share in 1936 and then waited for earnings to permit another disbursement in 1943—this time 50 cents a share. Early this year, another 50 cents a share was paid. Observers look for another payment of at least the same amount before the year is over. Earnings this year may run between \$4.59 and \$4.75 per share compared with \$2.13 for 1943.

Burnett is a newcomer to the surface dividend paying ranks, having started with 15 cents a share late last year. Thus far in 1994, three quarterly disbursements of the same amount have been paid. As this appears, it is likely Burnett will have declared the final 15 cent dividend for the year, payable to stockholders Nov. 15.

► **Northwest**—Northwest first paid 50 cents a share on its old stock in 1937. Being on a fiscal year basis ending on June 30, the carrier has evidently declared its annual dividend for 1944 when it paid 50 cents a share Sept. 1. Similar dividends were paid in 1942 and 1943. Earnings for the year ended June 30, 1944, aggregated \$1.85 a share or about three times the amount of the indicated annual dividend.

Perhaps the most interesting dividend payer is Delta Air Corp. This carrier has a relatively small public participation in its securities and has no broad market. The record discloses, however, that dividends were first paid in 1928 and, with but one interruption, were continued every year since. The equivalent of 25 cents a share on the present stock was paid annually for the three-year period ended June 30, 1940. Defiant operations for 1941 caused a large in-

that year. Dividends were resumed in 1942, this time at 80 cents a share and have continued through 1966.

Pan American—Pan American Airways has also followed the policy of making token dividend payments. The first dividend checks were mailed in 1938 when 80 cents a share was paid on the old common. In 1937, the rate declined to 82½ cents a share, to be boosted to \$1.30 for 1938. There were no payments in 1939 and 1940, although earnings were present. The \$1.00 annual rate was resumed in 1941 and continued through 1943. It is expected that the company will act on Nov. 29 and declare a similar disturbance to stockholders of record Dec. 3, payable Dec. 29. These were the *Ayitas* followed in 1944.

Eastern Air Lines, which had one of the best earnings record in the industry, has failed to pay a single dividend since its present incorporation in 1938. From the very outset, the carrier embarked on the policy of retaining all earnings. The effect on the company's financial structure becomes evident when it is realized that working capital has increased from about \$5,000,000 at the end of 1940 to approximately \$13,700,000 as of the last dividend.

TWA—Transcontinental & Western Air paid \$25 cents a share in 1936 and has not paid anything since. At erratic earnings record in the explanation in this instance. Turn, too, with the Hughes Tool Co. owning about 45 percent of the stock, any dividend policy would most likely be influenced by the tax problems faced by the principal stockholders. It is unlikely that the Hughes interests are in any need of dividends from TWA nor are they inclined to accept a taxable profit at the time when they receive profits taxes at high levels.

Western Air Lines, when it held virtually the bulk of the railroads' early shares under its control, paid a cash dividend of 45 cents a share in 1926. In 1936, an additional 35 cents a share was paid. Since that time, Western has shown no indication of resuming any dividend payments, retaining all available earnings.

With the exception of Continental Air Lines which paid 13 cents a share early this year, none of the other air carriers has been indicated as likely to share in dividends to stockholders this year.

TRANSPORT

Airlines Study Proposal to Divert Planes from C-47 Assembly Line

Program suggested by Douglas and requiring Army sanction, providing companies approve, is expected to affect enough aircraft to meet CAB's estimate for present operations.

By MERLIN MICKEL

Careful scrutiny is being given by the airlines to a proposal by Douglas Aircraft Co. calculated to avoid reconversion headaches by diverting several hundred new planes to airline use directly from the Douglas C-47 assembly line, and increase the number of planes in service substantially without overburdening the lines financially.

How many planes might be made available by the plan has not been indicated, but it may be assumed it would affect enough additional aircraft to meet the Civil Aeronautics Board's estimate that about 450 planes are needed by the airlines in their present operation.



SPECIAL DOCK SERVES MARS:

Key has devised a special U-shaped airplane dock at its Alameda, Calif., Naval Air Station to serve the Marsin Mars. Consisting of a concrete deck over standard postways, the dock can be raised or lowered by adjusting ballast in the postways. Simplified cargo handling and servicing of the Mars, shown here in its new berth, makes possible a free-day turn around operation between Alameda and Pearl Harbor.

This is 150 more than the present 300 ceiling, reached recently with the release of 36 by the Army.

Requires Army OK.—The plan proposed by Douglas and under study by the airlines would require Army sanction, but likely will not be put up to the Army unless the airlines approve it.

Approval by the airlines, which constantly face delay and red tape in reconversion of the planes coming back from the military, probably will hinge on what the plan would cost them.

Cost is a big item in reconversion, but difficulty of obtaining labor and materials is more of a stumbling block. Nevertheless, the

airlines would like to know more about the price of planes under the Douglas proposal, and the method of assured delivery.

Manpower Factor.—Factor in the Douglas plan is the loss of manpower. When a outbreak occurs, employees leave in large numbers. This creates a shortage of mechanics available for reconversion. Condition of the planes turned back lacks uniformity. Materials—particularly radio—are hard to procure. Army approval must be obtained before workers can be diverted.

These and other considerations led Douglas to suggest that it might be possible to turn out new planes directly, thus avoiding future reconversion complications. Reconversion factory changes would not be necessary. The ships destined for commercial use simply would be diverted at one point in the assembly line, and from then on equipped for airline operation.

Leasing Plan Proposed.—Suggestion has been made that these new planes be leased to the operators by Douglas, who would retain title. There is another possibility that the government might hold the title and dispose of the planes as surplus property. Army now owns the material that would go into them, but whether the airlines would be leasing from the government or from Douglas, the set-up probably would be substantially the same.

What the ships would cost has not been determined, although one report is that the leased fleet would be \$28,000 a year per plane for three years. Douglas has asked airline reaction to this arrangement. That total of \$75,000 probably would not be higher than the ultimate conversion cost per plane. In addition, the lines would be operating new planes.

Avoids Capital Funds Tie-up.—Advantages of the leasing arrangement, its proponents say, is that it would permit the lines to pay for use of the planes out of operating income, thus avoiding a tie-up of capital funds intended for the purchase of new, larger post-war types when they become available.

In the meantime, most of the last batch of 20 turned back by the Army have been delivered to the airlines to whom they were allocated. That is only the first step in a long chain, however, before they can be placed in commercial use, and the airlines are deeply concerned with how long the reconversion may require.

How to photograph a Clipper's footprints



SENSITIVE ALLOY ROD IN CENTER TRANSMITS, ELECTRICALLY, SLIGHTEST VARIATION IN PRESSURE

OSCILLOGRAPH AND RECORDING CAMERA PRESSURE-SENSITIVE UNITS



1. This is a "pressure-sensitive unit," a standard of California development in petrochemicals (use of electronics in petroleum research). When Pan American World Airways wanted to study the effect of the pounding of take-offs and landings on the hulls of their Clippers they asked if this device could be used.

PART OF PHOTOGRAPHIC RECORD OF HULL PRESSURES



3. Here are the footprints of a Clipper during take-off, one of present strain on flying boat hulls. The oscillograph record shows little water pressure on the forward hull area. But the jagged upper track reveals that greater pressures battered the hull farther aft.

2. We thought so. It was an unusual job for petroleum engineers, but Standard's research staff—the California Research Corporation—is often consulted by airlines. For this job, two pressure-sensitive units were attached along the keel line of a Clipper hull. These were connected to an oscillograph and a recording camera.

4. These tests that reassured Pan American as to the strength of their Clipper hulls emphasize again that Standard leadership in aviation research rests upon fundamental knowledge of all phases of aircraft operation. This thorough understanding of aviation's needs enables us to produce even better Standard Aviation Gasolines and Lubricants for Pan American, and flyers everywhere.



STANDARD
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AMERICAN AIRLINES' ATC ROUTES

Map tells extent to which domestic airlines have aided the war effort through their contract work for the Air Transport Command. Drawn by American Airlines.

ATC, NATS Tackle Civilian Fare Job

Seek to decide reasonable charge on airlines for non-military passengers.

Officers of the Air Transport Command and the Naval Air Transport Service are working as hard as they can to make the planes of the two military airlines available to civilian passengers in certain instances. Fixing fares for routes never before operated commercially, and the establishment of express and cargo tariffs are the main questions to be solved.

Under terms of the Executive Order, passengers carried by the Army and Navy must be charged fares not lower than current commercial rates. Inasmuch as commercial fares vary widely, depending upon the route as flown, ATC and NATS, whose lines are frequently not those of commercial carriers, are experiencing some difficulty in establishing reasonable charges as required by the order. Fares based on plane mileage flown will probably be evolved.

Cargo Included.—The President provided also for carriage of non-military cargo by ATC and NATS

In this field, current commercial rates furnish little or no guidance. Commercial tariffs, based on commodity classification systems, make no provision for air freight as distinct from air cargo. Presumably, the military services will set tariffs on a point-to-point basis regardless of classification.

Stopgap.—Alexander B. Royer, chairman of the Airlines Committee for U. S. Air Policy, called the move a "transitory, temporary step" designed as a stopgap until U. S. air carriers can be certificated by CAB. Existing international operations are vitally concerned with the entry of ATC and NATS into commercial operations, but it is certain that the military lines are not competitive factors.

U. S. Transport Policy

National Federation of Shipping, presently seeking entry in the air field for steamship lines, has published a new booklet entitled *American Transportation Policy* which traces national transportation legislation and purports to show that the Civil Aeronautics Board is not following the intent of Congress in refusing certificates to steamship companies.

Author of the pamphlet is T. W. Van Metre, professor of transpor-

tion at Columbia University, who has served as consultant and expert for the United States Shipping Board and the United States War Shipping Administration. The booklet has been given wide distribution by the National Federation of Shipping.

Delay Asked on AA's Bid for Export

Question of *American Airlines'* proposed acquisition of control of *American Export Airlines* will be deferred pending the decision of Civil Aeronautics Board in the North Atlantic case of the Board adopts recommendations of its members. In a report issued late last week, CAB Executive Thomas L. Wren and President D. Moran recommended the Board withhold action on the acquisition until it determines whether *Export's* temporary certificates shall be made permanent.

The examiners found the proposed sale of a majority interest to *American Airlines* as a subtle form of circumvention with the Board's order that *American Export Airlines* drop itself of steamship control. They suggest, however, that the purchase price of \$3,000,000 is unreasonably high for a temporary certificate.



Frankly, we expect to learn a lot at the NATA Convention... and are looking forward with interest to hearing your ideas and plans for the future of our industry. Also, we hope to make a worthwhile contribution.

For 11 years we have been a source of supply for Aircraft Dealers. That's

given us a lot of information which we'll be pleased to pass on. We're anxious to share our experience with you—to add what we have learned to your fund of knowledge—to consult with you on your own specific problems, and to submit workable, profit-making suggestions.

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All material made of paper and paperboard still must be cut to the bone. Eliminate wherever you can error complete and final victory ends the paper pinch.

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Hearings Open on AA Application For San Francisco-L. A. Route

Inter-company agreements apparently abandoned as United, TWA and Western Air Lines seek to keep fourth line from sharing lucrative West Coast business.

Any inter-company "understandings" that may have existed in previous years went into limbo last week as United, TWA and Western Air Lines strove to keep American from becoming a fourth to share the San Francisco-Los Angeles route.

American Airlines was the first of 13 new route and extension applicants to be called by Civil Aeronautics Board Examiner Francis W. Brown and E. Merritt Stokes in the opening of West Coast hearings in San Francisco.

Competed with Boston Case—The hearing opened with the belief prevalent, but unspoken in testimony, that American's case as a sequel to the failure of other domestic lines to abide by an understanding that they would preserve American's Boston monopoly as long as American stayed out of the Los Angeles-San Francisco picture.

However, American cited the precedent of the Boston case and admission of other operators to the New England area as one of several reasons why its Los Angeles-San Francisco application, proposing six daily round trips during the first year of operation, should be granted.

President A. N. Kemp, C. W. Jacob, secretary, and C. A. Rasmussen, vice-president of traffic, provided American's testimony support of the application which was under a constant attack. American claims that the San Francisco-Los Angeles traffic potential will provide all operators with adequate returns.

Passenger Forecast—Jacob multiplied by five the route's present business to estimate that in 1948 the route should produce 113,148 passengers, shared one-third each by United and Western and one-fourth each by TWA and American.

In American's lengthy brief was estimated the cost and revenue for the first year of an extension of its transcontinental service from Los Angeles to San Francisco — expenses totaling \$906,830 and total revenue to \$1,121,884 from passengers, mail and express.

Jacob and American experts to increase the year's first daily round trips to 32 a day by 1948.

Under cross examination by TWA attorney James K. Crampton, American's President Kemp testified that he would be willing to submit temporarily to the restriction of handling only through business on the coast route as a condition of certification.

However, in support of American's appeal for release of a restriction against handling local passengers between San Diego and Los Angeles—a condition waived for the war's duration—Kemp said "it is stupid for Americans to be flying with empty seats between San Diego and Los Angeles."

Hearings Expedited — CAB examiners gave every indication of expediting CAB hearings that had been expected to carry through from four to six weeks, and at the opening Brown was confident that all testimony could be taken within two weeks. To that end, he received without testimony and filed for reference use factual briefs of 32 West Coast cities affected by one or more of the applications covering proposed routes in Arizona, California, Oregon and Washington.

To facilitate further the speedy delivery of testimony, and cross examinations, the examiners set up the following sequence of hearings in three general groups:—

Group 1 . . . Southern California . . . American Airlines—Coast Aviation Corp.—Los Angeles Airways, Inc.—Warner School of Aeronautics — Transcontinental and Western Air. Group 2 . . . Coast Wide . . . Southwest Airways—West Coast Air Lines, Inc.—Western Airlines, Inc.—United Air Lines, Inc.—Nevada Pacific Airlines, Inc. Group 3 . . . Pacific Northwest . . . Northwest Airlines, Inc.—Ray G. Owen Co.—Albert L. Zimmerman. Western Washington Airways withdrew its Group 3 application and was placed off calendar. Interventions listed were California Air Transport and the U. S. Department of Justice.

SABENA Resumes

The Belgian Airline, SABENA, has resumed a scheduled service between England and the Belgian Congo, according to the Belgian Ministry of Information. As presented the operation consists of one round trip monthly, using a 18-passenger Lockheed Lodestar.

The route now being flown extends from a terminal in England to Leopoldville, Belgian Congo, via Lisbon, Casablanca, Alcock, Gao, Lagos, Libreville and Pointe-Noire. Pre-war services operated with greater frequency and on other schedules from Belgium itself.



TWA's NEW REGIONAL MANAGERS:

Under its new reorganization plan (AVIATION News, Oct. 4), all operating and service functions of TWA's domestic system are being moved into a Transportation Department, headed by Vice President John A. Collins (above, center). Newly appointed regional general managers who will administer the new department's functions under Collins are (l to r): C. E. McClain, central region, Chicago; J. S. Bartlett, western region, Los Angeles; W. N. Gorkes, midwestern region, Kansas City; and P. W. McGraw, eastern region, New York.

Study Non-Scheduled Carriers' Position

ATA to prepare material for submission to CAB to supplement that offered by airlines.

With announcement of a date for hearing expected momentarily, interest is gaining in the move by Civil Aeronautics Board to clarify the rights and privileges and economic status of non-scheduled air carriers.

Air Transport Association has demanded to prepare material for submission to the Board, after approval by its directors, to supplement whatever individual airlines may care to do about the same time.

Job For Research—The job probably will fall to De Lewis C. Bonnell, ATA's director of research, who made the Association's studies in connection with the local-feed-or-deep investigation by CAB. In that case, however, ATA's observations were submitted after the hearing had closed. Presumably the decision to proceed in the non-scheduled study will permit submission of the material before that hearing ends.

Board officials attach much im-

portance to the preliminary work before such a hearing, which in this case will provide consideration of the many pending requests for certificates to authorize non-scheduled service.

Information is sought on need for such service, types of operation, facilities, safety, legal considerations and other factors.

ATA Survey Urges Higher Rate Return

Research officials say urgent need for level above that ordinarily allowed other utilities.

Studies of airline rate-regulation procedure have proved to be an Air Transport Association research expert that there is urgent need for a rate of return to the airlines "higher than that ordinarily allowed most of the other public utilities."

The conclusion is that of Reginald V. Hobbah, ATA's assistant director of research, who recommends for further study four "areas of research" in rate regulation procedure. His investigation, under direction of ATA's board of directors, sought without suc-

cess for a better alternative to the "fair-return-on-fair-value" method of determining the reasonableness of the level of commercial airline fares and their resultant earnings. He found principles of regulation have developed or are developing "rooted to the economic welfare and business needs of commercial air transport."

Four Problems—The four matters he would like to see further analyzed are the status of working capital, "investment" in rate bases, status of the rate of return, and need for cost analysis.

It was in connection with the third of these that Hobbah drew conclusions on need for a higher rate of return for airlines than most other public utilities. Factors indicating that, he says, could be marshalled into an impressive array of regulatory commission would find it difficult to ignore.

Among these factors are technological change and risk of rapid obsolescence, high operating ratio and uncertain financial dangers, expectations of expansion which at first may be more developmental than profitable, need for increasing proportions of borrowed capital, and the fact that freedom from subsidy, in which the public is interested, will develop most readily "by permitting the airlines to derive more or less what the traffic will bear, and allowing them to retain a substantial share of profits if such profits derive from those charges."

Working Capital—Policies of treatment of working capital differ among state and federal commissions to the point of "chaos," Hobbah finds, and "the treatment of air transport capital, specifically in the use of 'net working capital,' is particularly bad in respect to its disregard of economic and financial considerations." He suggests an early study.

To continue allowing only "invested capital" to enter the rate base for regulation purposes may lead to eventual extinction of all capital other than owner-equity capital, promising an important issue if borrowed capital ever plays a larger part in commercial air transport's capital structure. To postpone analysis of this, his second point for research, "may well be to lock the barn after the horse is stolen."

Study of cost behavior, Hobbah points out, may develop that proportion of overhead costs in air transport is smaller than in other

public utilities, that air transport therefore tends in less degree to be a natural monopoly than do other public utilities, and that the public interest does not require such rigid restrictions on rate of return as in regulation of most other public utilities.

Ship Line Presents Case at Hearing

Question of steamship participation in airline operations was injected into Civil Aeronautics Board's first Atlantic route proceeding near the onset of the hearings last week as witnesses for Moore-McCormack Lines, Inc., pressed their company's case for air routes.

The steamship operator presented an estimate that the airplane would directly nearly 90 percent of pre-war passenger traffic from steamship companies, and that the latter would have to be permitted to conduct air operations

Contract Fling

International contract flung by the airlines for Air Transport Commission has responded to the point that it is expected to exceed in the current fiscal year the airline down on both domestic and international ATC routes since fiscal 1945. Domestic contracts have been canceled, the ATC now being its own flying on these routes. Last fiscal year, ending June 30, \$200,000,000 transport plane miles were flown on operations in continental U.S. and 11,300,000 were on international routes—a total of 100,000,000.

The Commission now anticipates that increased international operations, coupled with greater intensity in use of air transport, will run the airlines' ATC operations to over the \$150,000,000 transport plane miles for fiscal 1949.

The ten contracts for international ATC operations are held by American Airlines, Consolidated, TWA, Com, Eastern Air Lines, Northeast Airlines, Northwest Airlines, Pan American, Transcontinental & Western Air, United Air Lines, and Western Air Lines.

ATC has budgeted for U.S. airline services for fiscal 1949 at \$40,000,000, compared with approximately \$68,000,000 reported spent for such services during fiscal 1944.



National Airlines Signs for DC-4's George T. Baker (left), president of National Airlines, and Donald Douglas, president of Douglas Aircraft, as the former contracted for seven DC-4's at a cost of about \$3,355,000.

If they were to survive as passenger carriers.

Type 10—Pan American Airways case had been completed early last week, with much testimony, presented to relate to the "Type 10" aerial, being presented in executive session. Other operations heard in the closing sessions were Trans-Oceanic Airlines, U.S. Midwest Air Lines, and National Airlines.

NAL Plane Orders Total \$8,500,000

Recent contract for seven DC-4's and three post-war commitments to 23 aircraft.

National Airlines' recent \$3,500,000 order for seven DC-4's, added to its \$5,000,000 contract for 16 Curtiss-Wright CW-20's, brings the line's post-war plane commitments to \$8,500,000 for 23 new planes.

At the same time, it raises to \$2 the number of DC-4's for which the airlines have contracted with Douglas Aircraft Co., plus the undetermined number for which Eastern is negotiating, believed to be eight on firm contract and a like number on first refusal basis.

Plus DC-4 Operations—Nationally is making plans for type of operations to which its DC-4's will be assigned. These include a great circle route between Miami and New York, 227 miles shorter than the present 1,212 miles, bringing the flight time down to 4 hours and 30 minutes. Other great circle routes are planned between Miami and New Orleans, Jacksonville and New Orleans, New Orleans and New York, and Tampa to New York.

G. T. Baker, National's presi-

dent, said the additional equipment was ordered with a view to accelerated prosecution of the line's applications for trans-Atlantic and Caribbean routes.

Proposed Revision In CAR Circulated

Civil Aeronautics Board is circulating a proposed revision of Part 41 of the Civil Air Regulations dealing with rules governing scheduled air carrier operations outside continental United States. The Board hopes to elicit comment from interested operators and prospective operators which will permit the final adoption of a body of rules meeting general approval.

As in recent proposed CAR revisions, the Board has attempted to reduce duplication of rules, to eliminate those more properly contained in an operator's manual, and to clarify the wording of the section.

Loss and Short Route Operations—The draft of the proposed Part 41 is based on distinction between long and short route operations, with the principal differences in the sections dealing with route and aircraft requirements.



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dispatch routes, flight crew requirements and fuel reserves.

The proposed draft removes the stipulation proving period required by the Part 61 now in force. To replace it, the Board has proposed that the plane returned to the West Coast within 24 hours elapsed time. ATC will operate the Constellation experimentally within the U. S., but will not introduce it into overseas operations, at least for some time.

CAB has noted written comment from the industry be submitted by Jan. 1.

Deeny High Priority Program for C-69

ATC has no plans for starting high-speed non-stop coast-to-coast line with Constellations.

Reports that the Air Transport Command plans to start a high-speed non-stop scheduled transcontinental service for impatient passengers and high priority cargo were labeled incorrect by the Command last week. The story, ATC officers say, grew out of an experimental West Coast to Washington route trip down recently by the first Constellation released from the Army's experimental base for service with the ATC.

The transcontinental roundtrip

presumably was one of the many attempts to eliminate the "bump" from the plane. Reliable sources report the Army's scheduled flight was completed in nine hours at 40 percent power, and that the plane returned to the West Coast within 24 hours elapsed time. ATC will operate the Constellation experimentally within the U. S., but will not introduce it into overseas operations, at least for some time.

Cargo—One of the chief problems remaining to be solved is the Constellation's cargo space, which has been criticized as difficult to access. The forward cargo compartment must be loaded through the nose wheel well; the rear through a hatchway in the fuselage. It also is understood that the ship's cargo facilities provide for loaded cargo to be carried no more than the original purchase agreement specified.

Transcontinental & Western Air is reported not too concerned over the Constellation's cargo limitations may have at a stage certain, inasmuch as the line plans to use the plane primarily for high speed passenger operations.

2 U. K. Lines Reveal Expansion Plans

TCA maps trans-Atlantic service while Scottish Atlantic Ltd., projects west coast.

Two British Empire air carriers—Trans-Canada Air Lines and Scottish Atlantic, Ltd.—had their post-war plans for international operations on the table prior to the opening of the International Civil Aviation Conference last week. The Scottish company projects a world route, while the plans of the government-owned Canadian line call for trans-Atlantic service.

G. T. Laram, vice-president of Trans-Canada, said it is ready to start overseas operations as soon as the post-war system for civil aviation is settled and the appropriate franchise can be obtained. He placed his line squarely in the competitive picture with a statement that TCA would compete as well or better on the North Atlantic with fares already announced by U. S. airlines.

Circle Route—Scottish Aviation, Ltd., a nine-year-old company, operates in London plan for a circle route between London and Glasgow, with round trip trans-Atlantic fares between Scotland

and New York as low as \$320. Trans-Canada, Yorkville, will be the company's operating base.

Services announced as planned include:

► **Internal United Kingdom service**—

► **Continental shuttle service** to most of the capitals of western European countries.

► **A global circle route** serving Oslo, Stockholm, Leningrad, Moscow, Omsk, Peking, Vladivostok, Fairbanks, Vancouver and Chicago. This would be supplemented by two loop lines serving Central Europe, the Middle East, Korea, Cebu and Hong Kong, replacing the main line at Vladivostok.

► **Day service** between Scotland, Canada and the U. S., via Iceland, Greenland, and Goose Bay, Labrador, for passengers, second class mail and freight.

► **Night service**, Scotland to New York, for sleeper passengers, first class mail and freight.

The company plans initially to use converted military planes which have been in recent use for transport service, until normal commercial types are available.

CAB ACTION

The Transport Board from London and the Civil Aeronautics Board from Washington have published the CAB Amendment No. 10, which will be effective Jan. 1, 1946.

The CAB has also issued a new rule, which will be effective Jan. 1, 1946, which will require airlines to file with the CAB a statement of their proposed routes, schedules, and fares, and to file with the CAB a statement of their proposed rates of return on investment.

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SHORTLISTS

► **PCA** reports a total of 52,118 passengers carried during September, a 22 percent increase over the 33,000 passengers carried during the same period in September, 1943. Most of the same period was up 3 percent and air express 7 percent over September last year.

► **Chile** plans a new landing field in the Maipo Maipo Valley to permit operation of a proposed daily air service between Santiago and Valparaiso by Lines Aereas Nacionales, (LAN), Chilean National Airlines.

► **Pat Armstrong** of New York City has prepared a survey of basic trade information, trade balances, major industries, foreign investment, air transportation, and population data, and existing and proposed air services in Panama, Colombia, Ecuador, Peru, Uruguay, Brazil, Chile, Argentina, and Uruguay. The survey will be released through accredited travel agents, and is intended for Chambers of Commerce, Manufacturers' Associations, and Boards of Trade, to encourage increased business relations with Latin America by air.

► **Japan** is reported to be one of the British Empire's largest airports was opened recently at an undisclosed location in British West Africa. One carrier already is available. The field, when complete, is expected to fulfill British requests for the next five years in a junction point for the British Empire Latin American route.

► **Surface shipping interests** are pursuing their efforts to persuade the CAB that "integration" of surface and air transport is desirable in overseas transport operations. Although the CAB has already approved the National Federation of American Shippers, led the World Shipper's Conference on Foreign Trade and Shipping at the World War II Conference, it is believed that it would be "absolutely" for the U. S. not to employ integrated plans for shipping and other routes are sure to use the plan.

► **Service** of Trans-Canada Air Lines (TCA) was considerably put-near person of "barrier or small frontier" type of air service. TCA's service is expected to be increased, as well as growth in TCA's interurban operations. Carriage of all first class mail by air is also under consideration.

► **Aerovias Nacionales de Colombia (Aerovias)** has resumed daily scheduled service connecting the isolated cities of Paramaribo and Guayaquil with the capital, Bogota. A new airfield at aerial construction at Guayaquil near the city.

► **Domestic service** has been started in the Dominican Republic by Compania Dominicana de Avianes with weekly flights to Santo Domingo, Trujillo and Santiago and three flights weekly to La Romana. This

company operates two planes, and is planning extension to other Dominican cities. KLM and Pan American schedules of weekly flights through Ciudad Trujillo. The General Andres Bello airport there was opened last September and is reported capable of handling any size aircraft.

► **Stockholders** of Air Cargo, Inc., will meet in Washington Nov. 29 to hear directors' recommendations for the organization's future financial and corporate disposal of its assets. The company's assets include a fleet of 100 aircraft and 100 pilots.

► **Electronic** and new design methods being perfected by the military are the key to the all-weather commercial transport plane and 100 passenger aircraft schedule operation, says G. M. Williams, senior vice-president of Curtiss-Wright Corp.

► **Air transport** is listed by a Commerce Department report as one of the factors of transportation that sustain the 1944 fall traffic peak better position than any other mode of transport last year. A considerable re-orientation of transport is expected when the principal military effort shifts to the Pacific, to accommodate the reversal in direction of traffic flow.

► **Hawker** Airlines estimates that for the year 1944 its air freight and air express service will carry 7,000,000 pounds of cargo. First nine months accounted for 5,000,000 pounds, more than 85 percent over the 1943 total.

► **Air express shipments** of Logansport Field for the last nine months of the year totaled 48,000, a 20 percent increase over the 39,000 of the 1943 period. Air Express Division of Republic Express Agency reports September increase was 1,950 shipments a day.

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CAB SCHEDULE

Mon. 10. Eastern Air, hourly day, providing for operation of non-stop of American Airlines, New York to Chicago, 1945-1946.

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UHF ANTENNA

Above is a four-core vertically polarized antenna used by Civil Aeronautics Administration engine crew in testing radio high frequency radio range and direction finding equipment at Indianapolis. Antenna is designed to operate at 83 megacycles.

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The Chicago Conference

WITH a summit which the press has not enjoyed at any previous international session recently, the International Civil Aviation Conference is underway. At this stage the delegates themselves have not the slightest knowledge of the accomplishments that will be possible for future world air transportation.

The U. S. delegates, faced with the perplexing and unprecedented problems in preparing to serve over 300,000,000 square miles by commercial aircraft, realize their responsibilities. They are cognizant of criticism, some of it justified, that the conference is on a bewilderingly grandiose scale, that subjects are on the agenda in which no action is possible other than a point of opinion or attitudes, that many details are up for discussion which at this early stage should not even be considered, that we may find ourselves delaying aviation expansion while the world quibbles over phraseology, that we should start the most necessary services now and adjust our operations as the problems arise, that we may take premature action on technical standards and regulations which not only may hold up aviation but will require extensive revision and rewriting to meet new developments.

The best the conference can hope for are general agreements between countries toward establishing and maintaining a provisional route pattern and policy, an air navigation agreement or at least agreement on principles to guide an interim drafting committee, and certain broad worthwhile conclusions. Little that the conference accomplishes can be or is intended to be final. It is a preliminary conference in every sense of the word. These facts the press should make eminently clear to the public, lest it come to expect too much and we bring a reaction of cynicism and mistrust which would do aviation irreparable harm.

Why Don't Women Fly?

WHEN WITH PERSONAL AIRCRAFT SUBSIDIZERS and salaried flight training operators and airport management wake up to the importance of increasing women in aviation and in learning to fly?

Only three percent of the pilot certificates which were in effect before the war were held by women. Yet there is not an advertising man in the country who does not realize that the feminine half of the

nation controls much more of the annual U. S. purchasing power than men.

This is an era of radio. Private flying has had more than its share, but we have yet to see a good one which set out to learn the attitude of women toward aviation in general and personal flying specifically. Why ask a thousand citizens of both sexes, if they would "like" to have a plane, whether they would prefer a red low-wing sport monoplane or a yellow one, when the truth is that perhaps fifty percent of the women would not buy any plane now, of whatever color, or let their husbands do so, even if they could afford it, because of the conviction that small craft are not safe enough yet?

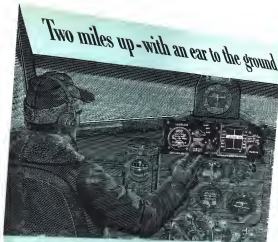
Personal aviation cannot afford to remain ignorant any longer on the reasons women shun airports, refuse to fly, or seek to prevent their families from flying. The war has insured some increased feminine interest for the future. But in the competitive, expensive months and years ahead no intelligent or resourceful businessman in personal aviation dare remain content with only the business that materializes haphazard. Their investments will demand that they consider every able bodied citizen a potential flyer. Such a philosophy is incredible as long as half of the nation's population is permitted to remain off the prospect list, especially the half which controls the family pocketbook.

Isn't it time to start learning why more women don't fly, and then do something about it?

Recognition of Aviation Writing

THE VARIETY, variety and quality of aviation writing in the United States warrants a competition or compilation of the best products each year in various categories, chosen from the widest possible field. TWA some seven years ago in a praiseworthy premonitory step established a writing and photographic contest which for a time drew exhibits from a long list of publications. In recent years, however, it has not attracted anything like a representative attention, especially in the periodical field, and in the latest competition no entries were made by *Aviation News*, *Air Transport*, *Flying*, *Aero Digest*, *Western Flying*, *Southern Flight*, *Air News*, *Air Tech*, *Air Trails*, *Air Pilot* and *Technician* or *Air Facts*. Any such project which fails to attract virtually any of the largest periodicals in aviation is not a competition at all and should be abandoned or revitalized.

ROBERT H. WOOD



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Some of these developments can't even be mentioned now. They're too secret. Some are in the field of electric aircraft controls. Some will have no use outside of war.

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